



## DOCTOR OF BUSINESS (DBA)

**Higher education vouchers: a solution in search of a problem. A case study of the United Arab Emirates.**

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*Award date:*  
2015

*Awarding institution:*  
University of Bath

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**Higher education vouchers: a solution in search of a problem. A case study of the United Arab Emirates.**

**Gordon Alfred Handke**

**A thesis submitted for the degree of Doctor of Business  
Administration in Higher Education Management**

**University of Bath  
School of Management**

**June 2015**

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## **Abstract**

Trading and market forces have been an integral part of the development of the United Arab Emirates (UAE), transforming the country from its early days primarily reliant on the pearling industry to the modern nation that it now is. Market forces have also impacted the development of the higher education sector in the UAE, shifting from a funding model that was primarily based on a centralized, input-based approach towards a more decentralized supply driven approach, funding the public institutions on a per student basis, together with supplemental funding, based on purpose-specific criteria. During this shift towards a more decentralized funding model the federal government undertook some initial discussions on progressing funding from this supply driven approach (providing funds directly to institutions) to a demand driven approach (providing funds indirectly to institutions via vouchers supplied to students). The claim that vouchers promote improved quality and efficiency through competition was seen as a primary reason why the UAE government considered applying market forces to fund higher education. Increased awareness of both students and their parents of the cost of high education along with increased student choice to facilitate greater education diversity to support a pathway to a knowledge economy were additional considerations. Hypothesizing the problem, or problems, the UAE government was attempting to address by implementing voucher funding for higher education was alike to posing a solution in search of a problem, hence the title of this thesis: “Higher education vouchers: a solution in search of a problem. A case study of the United Arab Emirates”.

This study examines whether voucher funding within the UAE is possible (or not) and in what form and under what conditions. The study also seeks out the wider considerations on prerequisites for market-based funding models and potential recommendations for a regulatory framework.

## **Acknowledgements**

First and foremost I wish to thank my supervisors, Jeroen Huisman, Ian Jamieson and Rajani Naidoo for their invaluable support and direction and for providing me the guidance and forthright advice that I needed to complete my thesis.

My thanks and gratitude as well to all the individuals that agreed to be interviewed for this study and for sharing their knowledge and insights with me. To my fellow students in my cohort, my thanks for sharing your experience and knowledge and for your on-going encouragement and support.

Completing the thesis, at times, felt like a solitary undertaking. However I always knew I had the utmost support and confidence from my immediate family. So, most of all, my heartfelt thanks goes to my mother Irene, my wife Janet and my son Joshua for their patience, understanding and for the sacrifices they made when I was devoting my time to this study.

## Table of Contents

Abstract .....	2
Acknowledgements .....	3
1. Chapter One: The Research Problem .....	9
1.1. Background and Rationale for the Study .....	9
1.2. Significance of the Study and Research Approach.....	13
1.3. Organization of the Study.....	14
2. Chapter Two: Literature Review .....	16
2.1. Literature Review Approach.....	16
2.2. Background to Literature Review .....	18
2.3. Description of vouchers.....	19
2.4. Voucher Models .....	20
2.5. Arguments for vouchers .....	24
2.6. Arguments against vouchers.....	26
2.7. Examples of Vouchers in Higher Education.....	29
2.8. Market Based Alternatives to Vouchers .....	36
3. Chapter Three: The Progression Towards Voucher Funding of Higher Education in the UAE .....	38
3.1. Background on the UAE and the Funding of Higher Education .....	38
3.2. Resource Allocation Funding Mechanisms Utilized in the UAE .....	39
3.3. Resource Allocation Funding Mechanisms – Strengths & Weaknesses...	46
3.3.1. Incremental Budgeting .....	46
3.3.2. Performance Funding and Performance Budgeting.....	47
3.3.3. Responsibility Center Budgeting / Cost Center Budgeting .....	48
3.4. Devolution of Spending Authority.....	49
3.5. Determining Factors for Distribution of Resources .....	50
3.5.1. Prerequisites.....	51
3.5.1.1. Suitable Senior Staff Appointments.....	51

3.5.1.2.	Staff Training and Development.....	51
3.5.1.3.	Support Mechanisms.....	51
3.5.1.4.	Adequate Information Systems .....	52
3.5.1.5.	Effective Monitoring Procedures .....	52
3.5.2.	Determinants .....	52
3.5.2.1.	Organizational Structure.....	52
3.5.2.2.	Organizational Culture.....	53
3.5.2.3.	Size .....	53
3.5.2.4.	Subject Mix.....	53
3.5.2.5.	Financial Health of the Institution and its Component Parts.....	54
3.5.2.6.	Priorities and Preferences of Key Individuals.....	54
3.5.2.7.	Activities of Powerful Interest Groups .....	54
3.6.	Institutional Steering and Control.....	54
3.7.	Conclusion .....	57
4.	Chapter Four: Research Methodology .....	59
4.1.	Introduction .....	59
4.2.	Research Approach .....	59
4.3.	Research Question .....	63
4.4.	Research Design.....	70
4.5.	Data Collection.....	74
4.6.	Data Analysis .....	85
4.7.	Challenges Faced .....	89
4.8.	Limitations Concerning Validity and Reliability.....	91
4.8.1.	Limitations of Validity .....	91
4.8.2.	Limitations of Reliability .....	93
4.9.	Conclusion .....	94
5.	Chapter Five: Assessing the Implications of a Voucher Funding Scheme for the UAE .....	96

5.1.	Proposed Voucher State Attributes.....	97
5.1.1.	Efficiency and Quality Assurance .....	97
5.1.2.	Equity .....	103
5.1.3.	Protecting Subjects and Government Steering.....	107
5.1.4.	Student Choice, Awareness and Motivation .....	113
5.2.	Enablers (Constraints) .....	119
5.2.1.	Funding .....	119
5.2.2.	Physical Facilities and Infrastructure .....	127
5.2.3.	Geographical Access .....	129
5.2.4.	Administrative Requirements .....	130
5.2.5.	Governance Body .....	134
5.2.6.	Cultural and Organizational Considerations .....	136
5.3.	Transition .....	138
5.3.1.	Vouchers vs. Per Student Formula Funding .....	138
5.3.2.	Transition to Vouchers .....	142
5.4.	Summary of Findings .....	145
5.4.1.	Proposed Voucher State Attributes.....	145
5.4.1.1.	Efficiency and Quality Assurance.....	145
5.4.1.2.	Equity .....	147
5.4.1.3.	Protecting Subjects and Government Steering .....	148
5.4.1.4.	Student Choice, Awareness and Motivation.....	149
5.4.2.	Enablers (Constraints) .....	150
5.4.2.1.	Funding .....	150
5.4.2.2.	Physical Facilities and Infrastructure .....	152
5.4.2.3.	Geographical Access .....	152
5.4.2.4.	Administrative Requirements .....	153
5.4.2.5.	Governance Body.....	154

5.4.2.6. Cultural and Organizational Considerations.....	154
5.4.3. Transition .....	155
6. Chapter Six: Conclusion and Recommendations .....	157
6.1. Introduction .....	157
6.2. Implications of Voucher Funding of Higher Education in the UAE and Conclusion.....	158
6.3. Recommendations for Prerequisites for Market-based Funding Models for the UAE .....	169
6.3.1. Governance Body .....	169
6.3.2. Central Depository Requirement.....	171
6.3.3. Quality Assurance and Improvement System.....	174
6.3.4. Funding Policies.....	175
6.3.5. Implementation Plan .....	178
6.4. Originality, Significance and Limitations of the Study .....	179
7. Appendices .....	182
7.1. Appendix 1: Interview questions – Original .....	182
7.2. Appendix 2: Interview questions - Final .....	194
7.3. Appendix 3: Data Collection – Interviewees.....	206
7.4. Appendix 4: UAE Federal Government Per Student Funding Scheme...	207
8. Abbreviations.....	209
9. Bibliography.....	210



## List of Tables

Table 1 : Using Literature in a Qualitative Study .....	17
Table 2 : Interview Questions Development - Original .....	67
Table 3 : Interview Questions Development - Final .....	69
Table 4: Data Analysis Themes.....	88
Table 5: Organizational Structure as Influenced by Culture – Two Views.....	137

## List of Figures

Figure 1 : Jongbloed's (2004) funding model analysis applied to the UAE .....	41
Figure 2 : Funding Allocation and Quality Assurance Coordination Framework .....	56
Figure 3: Knowledge Claims, Strategies of Inquiry, and Methods Leading to Approaches and the Design Process .....	60
Figure 4 : Punch Simplified Model of Research (Without Hypotheses).....	61
Figure 5 : Punch Simplified Model of Research (Without Hypotheses) - Modified ..	62
Figure 6 : Voucher Funding Scheme Actors and Primary Objectives and Themes	64
Figure 7 : Research Design Connecting Questions to Data.....	70
Figure 8 : Adaptation of Pawson and Tilley "Realist Interview" Structure .....	82
Figure 9 : Higher Education Specialisation in Abu Dhabi .....	111
Figure 10 : Jongbloed's (2004) funding model analysis – Modified:Fully Student Driven .....	139
Figure 11 : Jongbloed's (2004) funding model analysis – Modified: Vouchers as a Continuum .....	140
Figure 12: Proposed UAE Higher Education Governance Reporting Structure ....	171

# **1. Chapter One: The Research Problem**

## **1.1. Background and Rationale for the Study**

Trading and the market economy have always been an integral part of the United Arab Emirates (UAE), even before the British-Trucial Sheikdoms treaty expired on 1 December 1971 and the country gained its independence. During the 19<sup>th</sup> and early 20<sup>th</sup> century the pearling industry thrived, providing income and employment for the local people. The discovery of oil in the 1950's, and the corresponding oil revenues, saw the beginning of a massive investment in infrastructure such as roads, housing, hospitals, schools, water and electricity services, airports and ports and many other projects to support the progress of the UAE (UAE Interact.com, 2013). In the short time after gaining its independence the UAE has garnered a 2012 GDP of \$US 358.9 billion (The World Fact Book, 2013) and ranks 23 out of 189 economies in the world for ease of doing business based on its economy and regulatory environment, ranked by the Doing Business 2013 Report published by the World Bank Group (World Bank Group, 2013).

Market forces have also impacted the development of the higher education sector in the UAE, progressing from three federal higher education institutions to now the largest higher education hub of international branch campuses globally (Wilkins, 2010). The first higher education institution in the UAE was the United Arab Emirates University, established in 1977 in Al Ain. This was followed in 1988 with the opening of the Higher Colleges of Technology (HCT), which originally offered mainly vocational and technical programmes, but now also offers undergraduate and postgraduate degrees through a network of 16 campuses across the country. A third institution, Zayed University, was established by the federal government in 1988 and has campuses in Dubai and Abu Dhabi (Wilkins, 2010). In addition to these three public, or federal institutions, there are now 74 private institutions (CAA, 2014) in the UAE, with 37 of these being international branch campuses (Wilkins, 2012). While no evidence is claimed for this significant rise in private institutions in the UAE one could argue that the three propositions listed by Gareth Williams for the case for market approaches to higher education funding could also be applicable to the UAE:

“One is the belief that the private sector can relieve governments of some of the cost burden. The second is that many of the benefits of higher education accrue to private individuals and they should be prepared to pay for them. However, private finance is not necessary for market mechanisms to operate and the third premise is that both external and internal efficiency improve if government agencies buy services from universities rather than make grants to them. More efficient institutions offering better value for money flourish while those that are less efficient lose out. Markets put the power in the hands of purchasers of higher education services, so the system has to be responsive to their demands. Advocates of markets define efficiency as the satisfaction of consumer wants at minimum costs” (Williams, G., 1992, p. 138).

Market forces have not only impacted the establishment of these private institutions within the UAE but also the changes in higher education financing. Gareth Williams, in his 1995 essay noted:

“A marked shift is occurring from input-based budgeting whereby the state supplies educational services, either directly or indirectly, and the main criterion determining what is provided is knowledge and expertise, towards output and performance-based budgeting, in which suppliers receive resources to the extent that they provide services that satisfy consumers” (Williams, G., 1995, p.174).

A similar trend has occurred with the funding of public higher education institutions within the UAE. The past funding model that was primarily based on a centralized, input-based approach moved towards a more decentralized supply driven approach when the UAE Cabinet in 2010 approved funding the public institutions on a per student basis, together with supplemental funding, based on purpose-specific criteria. This new per student funding method was developed through the Office of Presidential Affairs. During this shift towards a more decentralized funding model the Office of Presidential Affairs undertook some initial discussions with outside consultants on progressing funding from this supply driven approach (providing funds directly to institutions) to a demand driven approach (providing funds indirectly to institutions via vouchers supplied to students). For the purpose of this study this raises the question as to the reasons why voucher funding was being considered by the federal government and how it saw its higher education system supporting

certain social, economic and political objectives. As the brief provided to the consultants was not made available, and given that during the course of this study it became apparent there was a lack of governance within the federal government in exercising oversight of the higher education system and how this would support the nation's strategic priorities, the implication was that consideration of voucher funding for the federal institutions was primarily one of market forces increasing competition, including greater competition from private institutions, which would increase the efficiencies and quality at the federal institutions. One could argue that the market forces that have driven the rapid development of the UAE economy were also being considered to drive competition and efficiencies within higher education. Putting funding in the hands of students would require higher education institutions to compete for students and to realign their priority from responding to government departments to meeting the needs of students.

Increased awareness for both students and their parents of the cost of high education was another potential consideration of the UAE government for implementing voucher funding. While the UAE prides itself on providing for the needs of its citizens, which includes free education at the primary, secondary and tertiary levels, there is also the realization that this type of 'welfare state' will not be sustainable in the long run and that citizens should become more aware of the costs of services made available to them and should hold some accountability for them. While the funding received by institutions under a voucher funding scheme will be determined by the students that actually enrol in that institution, one can argue that there is fundamentally little difference between a voucher funding system and a formulaic funding system based on student enrolment. The difference, proponents argue, is the psychological effect that voucher funding may have on students; it shows the investment the government is making on behalf of the students, money that could be 'left on the table' if not utilized, thereby encouraging the aspect of student choice and advancing the government policy of increasing participation.

As discussed in the literature review, there is a dominant view today that we have entered a knowledge economy with a shift from an industrial society into a so-called network society, characterized by a large degree of individualism, sometimes referred to as mass-individualization. The implication for higher education institutions is that they will be faced with increasing student demands for diversity in educational services, not just for the years after high school, but increasingly for

lifelong learning. Proponents see vouchers as the mechanism to facilitate student choice for education diversity; that vouchers could ultimately enable students to tailor their individual learning programmes through a combination of different faculties and institutions. The UAE, as discussed in Chapter 5, wants to transform its economy into a model where growth is driven by knowledge and innovation. As such, voucher funding could be seen by the UAE government as the mechanism to facilitate increased education diversity to support its pathway to a knowledge economy.

Hypothesizing the problem, or problems, the UAE government was attempting to address by implementing voucher funding for higher education was alike to poising a solution in search of a problem, hence the title of this thesis: “Higher education vouchers: a solution in search of a problem. A case study of the United Arab Emirates”. The approach taken in this study was to examine the policy issues and implications for implementing voucher funding for higher education within the UAE. Key issues for consideration included funding structures, levels and sources; operational and capital expenditures; student choice and accessibility; protection of subjects; quality assurance; and administrative requirements. As such the main research question was stated as:

**What are the consequences, intended and unintended, of implementing a voucher system for funding higher education within the United Arab Emirates?**

While the research question would seek out whether voucher funding within the UAE is possible (or not) and in what form and under what conditions, it would also seek out the wider considerations on prerequisites for market-based funding models and potential recommendations for a regulatory framework.

By putting purchasing power directly into the hands of students, voucher funding can be seen as a powerful means of applying market forces within higher education funding. However the application of market forces to higher education funding also raises the issue of market failure. The conditions that Jongbloed (2003, p.114) identifies for a market (*for providers*: freedom of entry, freedom to specify the product, freedom to use available resources, freedom to determine prices; *for consumers*: freedom to choose provider, freedom to choose product, adequate

information on prices and quality, direct and cost-covering prices paid) could be summarized as autonomy, open markets and well-informed decentralized decision making for both providers and consumers of higher education (Teixeira, 2004, p. 4). Deficiencies in these market conditions would ultimately lead to market failure. In considering voucher funding of higher education policy makers therefore need to consider the constraints of markets. Jongbloed (2000, p. 18) when presenting Barr's argument that "vouchers should be thought of as a continuum, from zero per cent constrained ('law of the jungle') to 100 per cent constrained ('pure central planning') or anywhere in between" (Barr 1998, p. 352) states "policy makers should consider a variety of constraints in choosing their position on this continuum:

1. Protecting *subjects*. Some courses (e.g. classics) need special protection, others need less protection. This can be arranged by tying some vouchers to specific subjects.
2. Protecting *institutions*. For reasons of regional balance it could be necessary to tie vouchers to universities in particular parts of the country.
3. Protecting *individuals*. There are good reasons to offer larger vouchers to students from low income families.
4. Protecting *quality*. One of the best arguments in favour of competition is that competition creates a strong incentive for higher education institutions to offer quality to their students. Nevertheless, at the same time it is important to protect standards, for example, by monitoring quality and publishing the results."

It can be argued therefore that market forces need to be accompanied by government regulation to ensure the constraints posed by voucher funding are contained. This study therefore examines the implications for a voucher system within the UAE along with the wider considerations on prerequisites for market-based funding models and potential recommendations for a regulatory framework.

## **1.2. Significance of the Study and Research Approach**

A primary goal of any study can be stated as that of advancing knowledge in a chosen field. While there are numerous examples of voucher funding for primary and secondary education, there are few examples of voucher funding for higher education. A number of countries have considered implementing vouchers for funding higher education, as is discussed in the literature review, but few have

actually proceeded and the benefits claimed have been for the most part theoretical rather than empirical. In the case of the UAE, limited research has been conducted into the study of implementing voucher funding for higher education. For this project a case study was utilized to develop generalizations and pathways to assess whether a voucher funding scheme would deliver the results expected of the UAE government, and to ascertain whether these generalizations may also be applicable to others considering implementing vouchers for funding higher education, taking into consideration the unique characteristics of the UAE. The findings derived from this case study are spelled out in the Conclusions and Recommendations chapter and are offered as advancing knowledge in an area where there has been limited experience.

### **1.3. Organization of the Study**

The thesis is composed of six chapters.

Chapter One introduces the research problem and provides the background, rationale and significance of the study, along with the research methodology applied.

Chapter Two presents an overview of the literature on vouchers, encompassing discussion on the description of vouchers, their historical origins and various voucher models implemented for primary, secondary and tertiary education. Arguments for and against vouchers are presented along with discussion on countries that have considered implementing vouchers for higher education and the rationale for why, and why not, this has materialized and whether there are market based alternatives to vouchers for higher education.

Chapter Three provides an account of the history of funding higher education in the UAE. Jongbloed's (2004) funding model analysis is applied to the UAE experience to illustrate how the funding scheme is progressing from a centralized, input-based approach to a more decentralized approach where the supply driven model (providing funding to institutions on a per student basis) is currently being implemented and a demand driven approach (funding provided indirectly to institutions via vouchers supplied to students) has been considered. The

advantages and limitations of the funding schemes identified are discussed in this chapter and provide the background for the analysis of a implementing a voucher funding scheme in the UAE.

Chapter Four outlines the research methodology for the project and identifies the rationale for using a case study as the method of data collection. The research question and sub-questions are identified, along with the data analysis approach and discussion on the limitations of validity and reliability.

Chapter Five presents the empirical findings and implications of adopting a voucher funding scheme for higher education within the UAE and discusses the generalizations and pathways that would need to be considered for such implementation.

Chapter Six presents the conclusions and recommendations to the research question, and discusses the originality, significance and limitations of the study.



## **2. Chapter Two: Literature Review**

### **2.1. Literature Review Approach**

Rudestam and Newton (1992, p. 47) state that the literature review “is the exact study that needs to be done at this time to move knowledge in this field a little further along”. As the UAE federal government has given consideration to voucher funding for higher education, and given the limited examples of such funding in practice for higher education, the literature review is essential in addressing the following questions as adapted by Silverman (2005, p.295):

- "What do we already know about the topic?
- What do you have to say critically about what is already known?
- Has anyone else ever done anything exactly the same?
- Has anyone else done anything that is related?
- Where does your work fit in with what has gone before?
- Why is your research worth doing in light of what has already been done?"

Creswell (2003) identifies three approaches to consider for the literature review, as summarized in Table 1 below:

**Table 1 : Using Literature in a Qualitative Study**

<b>Use of the Literature</b>	<b>Criteria</b>	<b>Examples of Suitable Types of Studies</b>
The literature is used to “Frame” the problem in the introduction of the study.	There must be some literature available	Typically used in all qualitative studies, regardless of type.
The literature is presented in a separate section as a “review of the literature”	An approach often acceptable to an audience most familiar with the traditional, positivist approach to literature review	This approach is used with those studies employing a strong theory and literature background at the beginning of a study, such as ethnographies and critical theory studies.
The literature is presented in the study at the end; it becomes a basis for comparing and contrasting findings of the qualitative study.	This approach is most suitable for the “inductive” process of qualitative research; the literature does not guide and direct the study but becomes an aid once patterns or categories have been identified.	This approach is used in all types of qualitative designs, but it is most popular with grounded theory, where one contrasts and compares his or her theory with other theories found in the literature.

**Source: Creswell (2003, p.31)**

While the analyses of many different voucher models are present in the literature, these have related primarily to the funding of primary and secondary education with limited review of funding higher education. As such the literature review was used to “frame” the problem in the introduction of the study rather than a basis for contrasting findings of a qualitative study. In addition a further review was done in and around the data collection and analysis (as advocated by Silverman (2005)) to confirm that the most relevant and current literature was reviewed based on the findings and analysis of the data. The literature examined included books and

academic journal articles, along with newspaper and magazine articles which focused on voucher funding of higher education.

## **2.2. Background to Literature Review**

The dominant view today is that we have entered a global knowledge economy driven by the application of new technologies and reduced barriers to international trade and investment (Brown & Lauder, 2006). According to the World Bank (2000) human capital in the United States is now estimated to be at least three times more important than physical capital. In this 'age of human capital' Becker (2002) states that the "prosperity of individuals and nations will rest on the skills, knowledge and enterprise of all rather than the elite few that drove industrial capitalism in the twentieth century." As Castells (1998) states, society is evolving from an industrial society into a so-called network society, characterized by a large degree of individualism, sometimes referred to as mass-individualization. The implication for higher education institutions is that they will be faced with increasing student demands for diversity in educational services, not just for the years after high school, but increasingly for lifelong learning. Jongbloed (2004 p. 105) argues these developments towards mass-individualization, the knowledge society and lifelong learning have consequences for the way higher education is managed, funded and regulated by public authorities. He further states public authorities will no longer be able to centrally plan the higher education sector due to the variations and unpredictability of markets. Instead he argues the choices made by students and the resulting competition amongst higher education institutions will be the leading principle. From a funding perspective this self-regulation by students and higher education institutions would imply "demand-side" financing, where financing is wholly determined by the "customer", in this case students. This is in contrast to the conventional form of "supply-side" funding whereby grants are provided by the funding authority directly to institutions that "supply" the provision, that is, the universities in higher education. Demand-side funding, as argued by Vossensteyn & Jongbloed (2007), gives students a greater say in what happens in higher education institutions. They can 'vote with their feet' (money follows students) which will force higher education institutions to focus more on the demands of students and on the quality of programmes and services being offered. This increased focus on quality and the resulting competition amongst institutions for students, it is argued, should

result in greater efficiencies and greater value for the funds provided by the government. The most far-reaching version of demand-side funding may be vouchers, which aligns with the wider argument about the dominance of neo-liberal thinking in many areas of life.

Within the following sections vouchers will be discussed as to their definition, historical origins, different types, advantages, disadvantages, current practices in higher education and finally potential alternatives to vouchers. Following this the discussion turns to a review of the funding of higher education within the United Arab Emirates (UAE) and the recent consideration within the federal government of implementing a voucher scheme for funding the public higher education institutions.

### **2.3. Description of vouchers**

From the literature (e.g. Levin 1983) vouchers are identified as a powerful means of demand-side financing. The voucher itself is a kind of “coupon with a prescribed purchasing power, over a specified service” (Blaug, 1967). The value of the voucher reflects the average per capita costs of a specific amount, and type, of education. In a voucher system, students (or prospective students) would receive vouchers (or entitlements) to buy the educational services from higher educational institutions and the institutions in turn would present the vouchers received from the enrolled students to the government in exchange for their funding value. The higher educational institutions, therefore, would no longer receive direct funding from the government, in the form of an object subsidy, but rather would receive indirect funding through the redemption of the voucher. The vouchers themselves can be considered as object subsidies, which are now provided to the students rather than the institutions, because the students can spend these subsidies only on education; students do not realize an increase in their free disposable income.

The indirect funding of institutions and student choice as a means of distributing funds are key factors of a voucher system. In addition there are a number of other considerations inherent with vouchers including (Bekhradnia & Massy, 2009):

- Whether vouchers can be used in private universities as well as public. A crucial aspect of the voucher scheme is freedom to choose and according to

Barr (1988) would require the inclusion of private institutions in the provision of higher education. Students would need to be allowed to cash in their vouchers at private institutions provided they comply with the minimum quality standards of the public ones.

- Whether vouchers can be used only at the undergraduate level or if they would be extended to cover postgraduate studies. As well, the length of study. Whether vouchers would be limited to the standard three or four years for undergraduate degrees and two years for postgraduate degrees, or longer.
- Whether voucher values would be differentiated depending on which institution they were used at and for which subjects. Institutions would be reluctant to offer expensive programmes such as medicine or engineering if voucher values were not greater than for less expensive programmes.
- Whether universities can charge a fee to top up the value of a voucher, and the extent of the fee, along with the total number of students that could be recruited.

While vouchers are generally associated with market driven economics, the considerations discussed above demonstrate that as with any market-based initiatives, there are given constraints that will affect the total amount of funding available and the distribution of such funds.

## **2.4. Voucher Models**

The idea of an education voucher is not a recent innovation. West (1967) traces its origin back to Tom Paine's *Right of Man* (1790) however the economist Milton Friedman (1962) is usually credited with development of the idea in modern times. Within the literature several different voucher proposals for compulsory education have been described, of which three well known models will be discussed below. The liberal market approach, represented by Friedman, has the dominant objective of improving educational quality and efficiency through competition amongst higher education institutions. A second model, the income-linked market model of Peacock and Wiseman is an amendment of Friedman's voucher scheme and proposes that vouchers be considered as a part of taxable income to promote fairer access to education. A third model, the social policy approach, represented by Jencks, views vouchers as having the capability of increasing the equality of educational

opportunity as a policy objective. These three models deal primarily with compulsory education. For higher education, voucher schemes are rare. The model proposed by Levin (1983) appears to be the most elaborate and consistent and will be presented after the discussion on the voucher plans for compulsory education.

### **Liberal Market Model – Milton Friedman**

Friedman was the first economist credited with the idea of educational vouchers providing market competition in education while still having financial support from government (Jongbloed, Koelman 2000). Friedman (1962) distinguishes between three kinds of education: compulsory education, higher education and vocational education. Compulsory education, he argues, has to be funded by “giving parents vouchers redeemable for a specified maximum sum per child per year if spent on ‘approved’ educational services”. Friedman presents a similar proposal for higher education whereby the value of a voucher is the same for each child and can be spent at any institution, both public and private. Institutions would be able to charge top-up fees above the value of the voucher and would be free to choose their students. The advantage of the voucher scheme in higher education, according to Friedman, is that it would encourage competition amongst the institutions for students thereby increasing efficiencies and putting greater controls on government spending for higher education.

Vocational education, Friedman argues, is an investment in human capital, similar to investment in physical capital. As such it would not have the same external effects that should be supported by government funding. Instead Friedman advocates the establishment of a loan facility, or individual learning accounts that students would draw on. Students would repay these loans based on a schedule related to the additional income earned as a result of the vocational education received.

In summary Friedman's concept of vouchers places a greater emphasis of efficiency issues and less so on equity issues, such as access to higher education. Allowing institutions to charge additional top-up fees could result in lower income families not being able to enrol their children in institutions charging high tuition fees. This drawback in Friedman's voucher scheme has led to alternative models.

### **Income-Linked Model – Peacock and Wiseman**

Peacock and Wiseman (1964) provide an amendment to Friedman's voucher model whereby the voucher is considered to be part of the taxable income "so that under a progressive income tax system the rich would not retain its full money." They argue that the value of the voucher would therefore be higher for children from lower-income families thereby reducing the unfair effect of access to education for higher tuition institutions. In reality it is unlikely that the purchasing power between low and high income families would be represented by the value of the voucher adjusted for income tax, or if low income families would perceive this adjustment in purchasing power. Jencks (1970) acknowledges that "legislatures may provide poor parents with slightly larger vouchers than rich parents, but (...) the difference is not likely to compensate the poor for their inability to spend private funds on education".

### **Compensatory Market Model – Jencks**

Equal access to education is the main emphasis of Jencks' model. His model has three main characteristics (Jongbloed, Koelman 2007, p. 10):

"It favours the market and competition among suppliers, but market competition ought to be regulated to become effective.

It introduces a compensatory element in order to avoid economic, religious and racial barriers and to promote social mobility between classes.

Schools where demand exceeds supply must allocate at least half of their places by ballot".

Under the compensatory model schools would not be able to charge tuition beyond the value of the voucher. Poorer families would receive a second, compensatory voucher inversely related to their income. Students from low-income families would therefore receive additional funding and as such should have access to education equal to those students from higher income families. Even if parents were willing to supplement, or top-up, the voucher value, this would not be allowed. Jencks' model aims to support the prevention of social and economic segregation – children would not be denied access to education as a result of their parents' inability to pay.

The three voucher models discussed above have shown the trade-off between individual freedom of choice (efficiency) and equality of educational opportunity (equity). From the previous discussion on the pros and cons of vouchers, it was argued that in the view of its proponents, vouchers will increase efficiency and consumer sovereignty. Opponents to voucher schemes question the efficiency advantages stating it is strongly related to whether parents are sufficiently well informed to make decisions regarding the standards of their child's school. In regard to equity, opponents of voucher schemes argue inequality to education access will increase, both in terms of quantity and quality, by social class, though less so under Jencks' social policy model than under a liberal market approach such as the Friedman model.

The discussion thus far on voucher schemes has focused primarily on compulsory education as most of the academic literature has addressed this. Voucher schemes for higher education are rare. The voucher model proposed by Levin (1983) appears to be the most elaborated and consistent plan. The Levin model contains five key elements (Oosterbeek, 1998, p. 219):

“Students receive vouchers (entitlements). Through their enrolment pattern they directly determine the amount of funding those higher education institutions (HEIs) will receive. If a student spends a voucher to attend a specific programme at a HEI of his/her choice, the government is obliged to pay a pre-determined amount of money to the institution that offers the programme.

A prerequisite for a HEI to be eligible for governmental funding is that it must be accredited. Not only regular institutions, however, are considered for accreditation. In principle, every supplier of higher education courses that meets specific quality standards can qualify for accreditation. This means that new suppliers get a possibility to enter the market. Furthermore, by not restricting accreditation and governmental funding to the traditional suppliers of higher education, Levin's voucher scheme can also include on-the-job training programme.

The voucher is not necessarily a grant, but may also contain a mixture of grant and loan. The composition of the voucher, in this respect, may vary with the type of programme and student characteristics. For example, for



studies that generate relative large externalities, the vouchers contain a large grant component. Moreover, based on equity considerations, it could be considered to give vouchers with a larger grant-component to students from low-income families. Another policy option could be to endow students with lower initial ability with more vouchers than the other students. Finally, it is important to note that the possibility of a loans component in the voucher scheme creates the option to combine a voucher scheme with a loan scheme (e.g. where repayments on loans are based on the income earned by the borrower).

Vouchers retain their real value during the entire lifetime of the owner. This makes it possible to combine a voucher scheme with the policy goal of lifelong learning, which is becoming more and more important in a knowledge-based economy.

Information plays an important role in the market system, such as a voucher scheme. Therefore, Levin is aware of the need to provide accurate information to demanders and providers of higher education and proposes to establish a special agency to collect and disseminate information about institutions and courses in the higher education system. Potential students should have quick access to relevant and accurate information about programme, course content, costs, quality of teachers, labour-market position of graduates, et cetera. At the same time, suppliers of higher education programme should be well-informed about enrolment patterns and new labour-market requirements. The same agency could play the role of administrator, bookkeeper, controller and collector of the vouchers.”

## **2.5. Arguments for vouchers**

The arguments for vouchers are generally aligned with market driven economic models. The benefits espoused however are for the most part theoretical rather than empirical, since there is no experience of the successful use of vouchers in higher education. The effect of a voucher scheme, it is argued, is that providers of higher education are forced to be more responsive to the needs and preferences of their customers (i.e. students, business). (Jongbloed, Koelman 2000). Student choice, it is argued, will be strengthened. Putting funds in the hands of students will empower

them as they will choose which institution at which to cash in their voucher. This entitlement may also have the psychological effect of making students aware of the value of higher education and the benefit of utilizing this resource rather than wasting it.

Another argument for increasing the power of the consumer (students and parents) and reducing that of the supplier (government funding agency) is that it will increase competition. Institutions faced with this increased competition will need to become more responsive to student needs in terms of delivery methods of instruction, flexibility in learning routes, and programmes offered. Increased competition will require institutions to become more efficient while at the same time increasing the quality of services delivered. Proponents argue that the efficiency gains to be realized through increased competition, together with efficiencies that could be realized within the government funding agencies as bureaucratic controls are reduced in line with indirect funding, should translate into a reduction in the cost of education per student. Governments, it is argued, should be able to educate more students for the funds they are providing.

Vouchers, argued by some proponents, will also facilitate widening participation and increasing demand. Greater opportunities will be provided for lower income families and minorities as vouchers will provide them the same access to higher education institutions as higher income families. Open-administration policies would make institutions more responsive to the educational needs of minority groups (Davis, 1983).

Finally, proponents of vouchers argue that the amount of private funding in higher education will increase as individuals top-up the voucher to match the fees charged by universities – assuming universities will be allowed to charge higher fees than the value of the voucher. It is believed many parents would be prepared to supplement vouchers from their own income, thereby increasing the total money spent on higher education, even in times of financial constraint.

## **2.6. Arguments against vouchers**

Opponents of education vouchers have numerous arguments against their use to fund higher education. A number of higher education researchers have focused on the underlying principles that define and distinguish the market and the academy (e.g. Dill and Soo, 2004; Geiger, 2004; Massy, 2004; Newman et al., 2004). Dill and Soo (2004) contend that market assumptions may not directly apply to higher education institutions, citing the example that efficient markets require transparent transactions where consumers and producers have perfect or complete information about the commodity. Massy (2004) doubts whether students and institutions possess or can acquire the information needed to understand the long-term economic, political, and social value of a college education. Market analysis therefore does not tell the full story. Students may decide to enrol at higher institutions based on marketing initiatives or a host of other reasons. Likewise the decisions made by academic leaders to offer or expand new programmes, or to close other programmes, relate to many reasons, are not fully explained through market analysis.

Given the competition amongst universities to attract students, opponents to vouchers express a concern that universities may feel pressure to admit more students and lower standards. Staff as well may feel pressured to award more favourable results in order to remain an attractive student choice.

Student choice is also limited by geographical factors. Most voucher proponents reference their models to urban settings where a greater diversity of institutions is available and public transportation facilitates access. The same diversity and accessibility is not available in rural areas within a reasonable travel distance and is a constraint that would hamper access for this segment of the population.

Student choice is also constrained by the capacity of physical facilities and infrastructure. Hough (1987) argues that that the implementation of education vouchers have the long term effect of popular institutions needing to expand, contract more buildings and appoint more staff while unpopular institutions would decline in numbers or even have to close. The result would be a mismatch and

waste of physical spaces in the unpopular institutions. Even the popular institutions could face the possibility of wasted infrastructure investment if enrolments do not materialize as planned. Institutions faced with the uncertainty and instability of funding if based solely on student demand would likely exercise extreme caution in investing heavily in facilities and infrastructure which in turn may result in less recruitment of students. This could have the opposite effect on participation from that originally sought.

The implementation of a voucher system involves substantial administrative support and cost. Individual training careers will need to be maintained along with the individual funding allocated by subject and year. Even proponents of a voucher scheme like Levin conclude that “the shift from the existing system to a voucher system with a well-functioning school market place in which adequate transportation and information is provided will demand considerable additional resources for education beyond those allocated for educational vouchers and instructional services” (Levin, 1998, p. 373).

From a government funding perspective, arguments against the use of vouchers relate primarily to controlling government expenditure and a loss in steering the higher education system. While the argument for vouchers is that they will reduce the cost of education per student given the efficiency gains realized through competition, unless a limit is put on the total number of students that can attend institutions, a government would face an open-ended financial commitment which it would not be able to afford. Governments would need to limit the number of students it would fund which would defeat the key aims of a voucher of widening and increasing competition along with increasing student choice. An alternative to limiting the number of students a government would fund would be to adjust the value of the voucher depending on the total students to be funded – the result being that students from one year of a course could receive less funding than those from another year and would need to supplement the shortfall themselves.

Opponents to a voucher system argue that the public interest extends beyond producing the maximum number of students as cheaply as possible – that universities are a resource and service to their communities, they conduct research

and they should support the strategic interests of the nation. Left simply to student choice enrolments in subjects such as physics or engineering may fall below the levels required to support the strategic and economic objectives of a nation. Likewise with programmes with high cultural value but small enrolments. These programmes could be in danger of being closed as they may not be economically viable to operate in a market environment. Universities usually are a primary depository of the history and understanding of a country's culture. The on-going stewardship of this function could be put at risk if simply left to market forces. Governments as such will need to look at certain constraints or regulations to protect subjects that are in the interest of the country, be they economic or cultural.

Barr (1998) argues that vouchers allow the intervention of the government to foster educational and distributional objectives. He concludes that vouchers should not be viewed as the only approach to competition but rather that “vouchers should be thought of as a continuum, from 0 per cent constrained (‘law of the jungle’) to 100 per cent constrained (‘pure central planning’) or anywhere in between”. In choosing their position on this continuum, governments should consider a number of constraints, as identified by Jongbloed, Koelman (2000, p.18), such as the protection of subjects, where specific vouchers could be tied to certain courses, for example classics, to ensure their continuation; protecting institutions, where vouchers could be tied to particular regions of the country to ensure regional balance and accessibility; protecting individuals, where vouchers could be offered to low-income families to facilitate equality of access; and protecting quality, to ensure that standards are maintained through quality assurance regimes as higher education institutions compete for more students.

Barr's conclusion that vouchers are not the only approach to competition brings up the issue of market-based alternatives to vouchers. This will be reviewed in a subsequent section – for now the discussion turns to examples of vouchers in higher education.

## **2.7. Examples of Vouchers in Higher Education**

While one can reference the analysis of many different voucher models in the literature, there has been very little empirical testing of ideas (Jongbloed, Koelman 2000). Although the theoretical advantages or disadvantages of vouchers can be documented, good theory does not always translate into good policy. In theory, vouchers are identified as an effective means of providing greater choice to students in selecting a higher education institution. In reality it is unclear whether this opportunity is simply preference or forced choice as family resources, geography and admission requirements can ultimately determine which institution a student will enrol at. Likewise, vouchers are credited with facilitating institutional competitiveness and efficiency (Jongbloed, Koelman 2000). Again there is a lack of relevant research that demonstrates that a voucher system could enable weaker universities to compete with universities that are dominant as a result of their superior buildings, strong academic programmes and positive reputation.

Predicting the outcomes from any voucher programme is uncertain because outcomes are contingent on the demand for postsecondary students, the availability of student places, tuition stability and the terms and conditions of specific programmes (Mason, 1975). In short, the literature on voucher schemes poses a number of intriguing issues that need further examination.

While examples of effective voucher systems have been identified around the world to fund school-level education there is only very limited experience of vouchers in higher education. The Higher Education Policy Institute, in the paper *Vouchers as a Mechanism for Funding Higher Education* (Bekhradnia, Massy 2009) identifies the state of Colorado, USA as the only example in the developed world where vouchers have been introduced and have effectively and comprehensively funded higher education. The paper also identifies the Republic of Kazakhstan as having introduced vouchers, although these have been limited to a relatively small number of the highest achieving students. As the majority of students and universities did not receive any government funding at all, there was little learnt from the voucher experience of Kazakhstan.

The Center for Higher Education Policy Studies (CHEPS) in a study for the University Grants Committee Hong Kong (Vossensteyn, Jongbloed 2007) identified recent developments in Australia, Colorado, Germany and the Netherlands as the most relevant and recent experiences with voucher-type practices in higher education. These will be examined in greater detail starting with the Colorado experience.

### **Colorado**

The state of Colorado put into law the College Opportunity Fund (COF) on May 10, 2004. Through the adoption of this legislation Colorado set out to address three pressing policy issues (Lewis 2006). First, under the voucher system the revenues collected by institutions would no longer be subject to the state's revenue limits under the Taxpayers Bill of Rights (TABOR). TABOR required voter approval on local and state tax increases and limited growth in expenditures to increases in inflation and population growth. Second, the voucher scheme was seen as a new market-based accountability framework to replace a previously failed accountability system set out to measure institutional performance against state-wide performance standards. Third, the voucher scheme was seen as a means of providing greater participation in higher education, especially for students from underrepresented racial/ethnic or low-income backgrounds and male students. This increased access was to be facilitated through lower costs to student education as a result of market competition amongst institutions and by increasing the awareness of students of the funding allocated directly to them versus the previous invisible subsidizations provided to the institutions. Vossensteyn and Jongbloed (2007) also identify an increase in the quality of higher education as an intended outcome of the introduction of vouchers in Colorado. Institutions spending more time on attracting students rather than lobbying government for additional funding would place a stronger focus on students which should increase the quality and relevance of higher education.

By adopting the new funding system higher education institutions in Colorado no longer receive direct lump-sum funding from the state. Instead their funding comes in two forms: 1) resident undergraduate students, with few exceptions, receive a state stipend to offset their tuition costs. (In 2005-06, the initial year, the stipend was

\$2400 or \$80 per credit hour) and 2) additional funding is provided through new fee-for-service contracts designed to provide funding for specific programmes, such as graduate education, basic skills courses and rural education. These fee-for-service contracts recognize that some institutions have higher costs than others and that a single voucher would not recognize this- which in effect undermines the efficiency argument for vouchers. The Colorado scheme also includes a performance contract through which the state would identify its priorities and reward universities for meeting them, although these have yet to be implemented.

According to an evaluation of the Colorado College Opportunity Fund (Longanecker, Prescott 2009) the voucher scheme succeeded in exempting higher education institutions from TABOR but it failed to foster more consciously market-oriented behaviour among institutions and it failed to lead to improvements in access. In assessing what went wrong the evaluation states that enrolment growth was not funded and that the fee-for-service funding was never well defined, nor change oriented. In addition funds were shifted between the stipend and the fee-for-service contracts which essentially gutted both policies of any chance of driving institutional behaviours. Finally performance contracts were not accompanied with rewards or penalties based on performance. At present Colorado is reviewing its policy options regarding the voucher scheme.

## **Australia**

On March 13<sup>th</sup>, 2008 the Australian Minister of Higher Education initiated a review of Australian higher education to examine and report on the future direction of the higher education sector, its fitness for purpose in meeting the needs of the Australian community and economy and the options for reform (Bradley, 2008). The review was conducted by a panel of experts lead by emeritus professor Denise Bradley and is commonly referred to as the “Bradley Review Report”. In the report the panel strongly supports a demand-driven, student entitlement model (this terminology is used instead of the word “voucher”) in order for Australia to achieve better attainment of higher education qualifications. Such a funding system, the panel states, would provide greater incentives for students to participate and would provide institutions the flexibility as to which courses to offer and the number of students to enrol. In turn, this choice for both students and institutions, supported by



good information and stronger quality assurance, would provide for a higher quality student experience.

The report acknowledges however that there are also concerns about a totally market and student demand-driven system for funding higher education, such as: the financial capacity for the government to fund the scheme should student demand rapidly increase; the potential for sudden changes at institutions resulting from large student enrolments at one institution at the expense of another institution; the quality of students admitted at some institutions if funding was to be demand-driven; and the potential mismatch between the courses taken by students and the requirements of the workforce (Bradley, 2008).

To address these shortfalls the report recommended refinements to the funding scheme. These include implementing a cap on the tuition fees universities could charge for any domestic undergraduate or coursework graduate students; continuing the direct funding of certain courses that are in the country's interest but which may not be supported by the market due to high costs and low demand; and allocating a certain portion of funds (the proposed amount being 2.5 per cent of the total funding for teaching and learning provided to each higher education provider) be provided to universities based on negotiated performance targets, reflecting national priorities which a purely voucher-based system would be unlikely to deliver. The Bradley report, while clearly seeing the benefits of vouchers, is pragmatic and in the end does not endorse a true voucher system given the shortfalls identified.

## **Germany**

Vossensteyn and Jongbloed (2007) in their discussion of the voucher experience in Germany state the main objectives of voucher models in Germany were to bring more competition and efficiency. Many German higher education institutions experienced problems with students taking a relatively long time to complete five-year degrees; drop-out rates were high; and there was a lack of student orientation in the system. Vouchers were seen as a means of providing the incentive for greater efficiencies and for making students more aware of the cost of their education and to stimulate institutions to be more transparent towards their students.

Within Germany the individual states or *Länder* have the autonomy over their own funding mechanisms for higher education. The Land of Northrhine-Westphalia (NRW) introduced a voucher model in the 2004-2005 academic year for all public higher education institutions and which was available to students pursuing diploma, bachelor and master degrees. Students pursuing a PhD degree fell outside of the model and were able to study and do research without having to pay tuition fees. Every student starting out in their first undergraduate or master programme was allocated a number of credits that would need to be utilized over the stated term of the programme. These credits would be reduced for every semester a student was enrolled within a programme at a university or college. If a student did not complete the programme within the stated timeline, then the student would have to pay a tuition fee per semester to stay enrolled and to complete the programme.

Based on the number of credits that were allocated to students every faculty was allocated a particular amount of funding. In addition the higher education institutions received tuition revenues from students who used all their credits. Certain performance indicators, like the number of graduates and the average duration of study, were incorporated in the revenue allocation process to reward institutions with the shortest duration of courses to receive the most public funds (Vossensteyn, Jongbloed 2007).

This voucher system based on the number of credits was replaced by a regular funding model in 2007. Two main problems were identified as to its failure. One was that the model proved to have high administrative costs, due to the need to track the credits allocated and utilized for each student based on their programme of study. The other problem was that the voucher model was politically introduced as an alternative to the imposition of tuition fees (Ziegele, 2006). A change of government in NRW and a political decision to introduce general tuition fees in NRW at the beginning of the summer term 2007 saw the return to a regular funding model. Regardless of the return to the regular funding model the political debate on the reforms to a more demand-driven model remain vivid (Vossensteyn, Jongbloed 2007).

## **Netherlands**

The implementation of vouchers has been considered by the Netherlands on three different occasions: the late 1980's, the late 1990's and the most recent from 2004 onwards (Vossensteyn, Jongbloed 2007). In the late 1980's a working group proposed a voucher-like funding model for upper secondary and higher education that would provide a set number of study credits for students depending on programme type and duration. The credits would be valid for a given number of years with an incentive of additional credits being granted for post-initial training if students graduated quickly. This model was not implemented as it was felt that the technical and administrative demands of introducing the model were too great and that the unpredictability of the voucher amounts to be funded from one year to the next could be a serious financial burden to both the government providing the funds and to the higher education institutions attempting to plan their resource requirements.

The voucher debate of the late 1990's led to a first attempt to implement a real voucher experiment in 2001 with a cooperative effort of 10 institutions of higher professional education (HBO) and six medium and small-scale business organizations (MKB) and 1000 students in the final two years of their programme (Vossensteyn, Jongbloed 2007). Two key elements of the experiment were the personal education plan (POP) for each student and the strong relationship with business sector (MKB-Nederland/HBO-raad, 2001). The personal education plan called for students together with the HBO-institution and the employer to establish a tailor-made individual study plan that would provide the qualifications required for a degree. Students in the final two years of their programme were given 84 vouchers, representing two years of full time study, which could be traded in at either of the working environments or at courses to be taken at the 10 participating HBO-institutions. This flexibility provided for greater student choice and also increased competition amongst the HBO-institutions.

A final evaluation of the voucher experiment was published in 2004 (De Weerd en Van der Velde, 2004). The evaluation concluded, on the one hand, that students believed they had become owners of their own education process which resulted in them being more motivated and better prepared for the professional market. On the

other hand, both students and teachers questioned the impact of vouchers on demand driven education, primarily because students do not know exactly what job they will end up with and what experience, programmes or courses they will need. The evaluation concluded that the personal learning path (POP) was the most important element in demand led education. However, having more individualized course structures for students would also require processes for individual assessment, which had not been fully thought through. In summary the experiment did not gain much attention and was not followed up by any further initiative (Vossensteyn, Jongbloed 2007).

In 2004 the Ministry of Education, Science and Culture proposed a demand driven funding mechanism for higher education, with vouchers (or learning entitlements as they were now referred to) at the centre of the model. Amongst other objectives the rationale for the model was to make higher education more efficient and to have students complete their degrees within a shorter period (Vossensteyn, Jongbloed 2007). Under the proposed learning entitlement system students would get a limited amount of learning entitlements which they could use to attend higher education institutions for half year periods, equating to the nominal duration of the programme plus on additional year. For three year programmes this would equate to 8 learning entitlements (6 for the nominal duration of the programme plus 2 for the additional year). For four year bachelor programmes 10 learning entitlements would be provided. The learning entitlements were touted as providing students with greater flexibility and choice as to the courses and programmes best suited to their own profile. Another benefit put forward was that by informing students of the high cost of education and of the funds made available specifically for them, that students would be urged to make better and more critical study choices (Jongbloed 2005).

In the debate that followed the launch of the learning entitlements proposal, concerns over the administrative impact such a system would have were again raised. The administrative tasks associated with tracking study credits for individual students and aligning these with programmes and degrees was seen as an enormous challenge for higher education institutions. There were also doubts raised about the coherence of study programmes, with the possibility that students for a 3-year bachelor programme could combine up to six different half-year units from six different faculties and institutions, leaving the question as to which faculty or

institution would confer the degree and what would it stand for? As well, how would these different opportunities and potential combinations be explained to students (Jongbloed 2006)? As of the formation of a new government in 2006/07 the plans for learning entitlements were partially withdrawn and put aside for an undecided period (Vossensteyn, Jongbloed 2007).

In looking at the four examples of vouchers in higher education it is questionable whether the benefits claimed such as increased competition and responsiveness to student demand are fully realized. Likewise the benefits claimed would need to be weighed against the negative effects of vouchers, such as an increased administrative workload, the need for government regulation as it applies to income distribution and the potential risk of increased demands on the government treasury if student demand is not capped.

## **2.8. Market Based Alternatives to Vouchers**

Bekhradnia and Massy (2009) contend that the benefits sought from a voucher system, primarily increased competition amongst providers and student choice driving the funding system, are attainable in a market orientated system without resorting to vouchers. They list England as example where universities receive two streams of money for teaching students: the fee paid by each student (which in effect is paid by the Government on the student's behalf and then recovered through the taxation system) and the Government grant paid by the Higher Education Funding Council of England (HEFCE). This grant is dependent on the number of students recruited, with the value of the grant based on the subject studied. If universities fail to recruit the number of students stipulated to receive the grants (within a permitted margin of five per cent) then part of the grant has to be repaid. Under this system universities are funded only to the extent that they succeed in recruiting students. And while there are limits in place for the total students that can be recruited, which one could argue goes against student accessibility, the limits provide a safeguard on the total draw on the government treasury.

Bekhradnia and Massy (2009) also contend that this present arrangement offers students as much choice as any realistic voucher system. They contend that even within a voucher system popular universities are unlikely to expand at the expense

of less popular universities. The biggest constraint on student choice, they contend, is likely to be an institution's assessment of a student's suitability for admission to a particular university, and not any external constraint on recruiting students.

Having now gone through this initial discussion of vouchers as to their definition, historical origins, different types, advantages, disadvantages, current practices in higher education and potential alternatives to vouchers, the study now turns its attention to the United Arab Emirates (UAE). Recently there has been discussion within the federal government of the UAE of implementing a voucher scheme for funding the public higher education institutions. This raises the question as to what are the implications, the advantages and limitations, of vouchers as a means of funding higher education within the UAE. Further questions are also raised as to whether the objective of this form of funding is based on the liberal market approach, improved quality and efficiency through competition, or whether it is based on a social policy approach to increase the equality of educational opportunity, or whether the objective is a combination of these two or other possible objectives. Before proceeding to identify the research approach to address these issues it is prudent to first understand the history and background of the UAE and its funding of higher education. This is presented in the next chapter.

### **3. Chapter Three: The Progression Towards Voucher Funding of Higher Education in the UAE**

#### **3.1. Background on the UAE and the Funding of Higher Education**

The UAE has one of the fastest growing economies in the world, with real GDP growth estimated at 4.5 per cent for 2013 and 2014. (IMF, 2014). Successful efforts at economic diversification have reduced the portion of GDP based on oil and gas output to 25% (CIA Handbook, 2013). This substantial diversification of the economy over the short 42 year history of the UAE is apparent in the additional flows of investment capital into the country and the increase of knowledge production, primarily through privatization. Prior to the mid-1990's the number of private higher education institutions was limited; there are now 74 private institutions (CAA, 2014) in the UAE, in addition to the three federally funded institutions. Of the total 46,615 UAE national students attending higher education institutions, 12,959 attend private institutions, with the remaining 33,656 students attending the three federally funded institutions (MOHESR, CAA, 2013). An increasing number of the private institutions are overseas institutions that are setting up satellite campuses within the different emirates of the country, this number currently standing at 37 (Wilkins, 2012). The University of Wollongong (Australia), Strathclyde (UK), Imperial College London (UK), Sorbonne (France), and New York University (USA) are a few examples. The growth of private institutions will likely increase as projections from the Ministry of Higher Education and Scientific Research indicate that total student population could increase to 50,000 by 2020. In addition the number of potential adult learners could add another 13,000 new students to this number resulting in a potential 40 percent increase in enrolments over the next 12 years.

The traditional view of higher education saw universities and colleges shielded from the pressures of market and political forces; higher education institutions were seen as public resources and education was viewed as a public good (Massy, 1996). According to Massy (1996) this view has been challenged over the years through a combination of reduced government resources and a corresponding questioning of government's ability to assure quality and efficiency to the satisfaction of public

officials and their constituents. The result has been an increasing “privatization” of higher education, with a greater reliance on market forces over public appropriations.

Growth within the publicly funded higher education institutions on the other hand has remained relatively static given budget constraints. Over the past several years, funding has failed to keep pace with inflation, operational costs and rising enrolments. In real terms, per student financial support at the federal higher education institutions has declined by at least 20% since 1999 (MOHESR, 2013). This decrease of public funding and the increasing “privatization” of higher education are similar to what is occurring in western countries but for different reasons. An interesting anomaly of the federal government of the UAE is that it does not enjoy financial independence and it does not have its own source of funds. While there are substantial resources within the country these reside with the local emirates (state governments) that finance the federal government and its programmes along with their own local programmes. Over the years federal programmes have increased, adding more burden to local government sources. Local governments have been reluctant to increase their level of contribution to the federal government, instead exercising their local autonomy and directing funds to local priorities, including the establishment of private institutions within their emirate.

### **3.2. Resource Allocation Funding Mechanisms Utilized in the UAE**

The introduction of more market-type mechanisms for coordinating higher education is being considered by many countries throughout the world (Jongbloed, 2004). This consideration is also occurring within the United Arab Emirates. These developments have a particular effect on the financing of higher education, where new models of resource allocation, institutional steering and control, and privatization are being explored (Weiller, 2000). In the following sections each of these aspects will be reviewed in greater detail, starting with resource allocation.

Jongbloed (2004) in his discussion on models and arrangements for the public funding of higher education proposes that funding arrangements can be classified

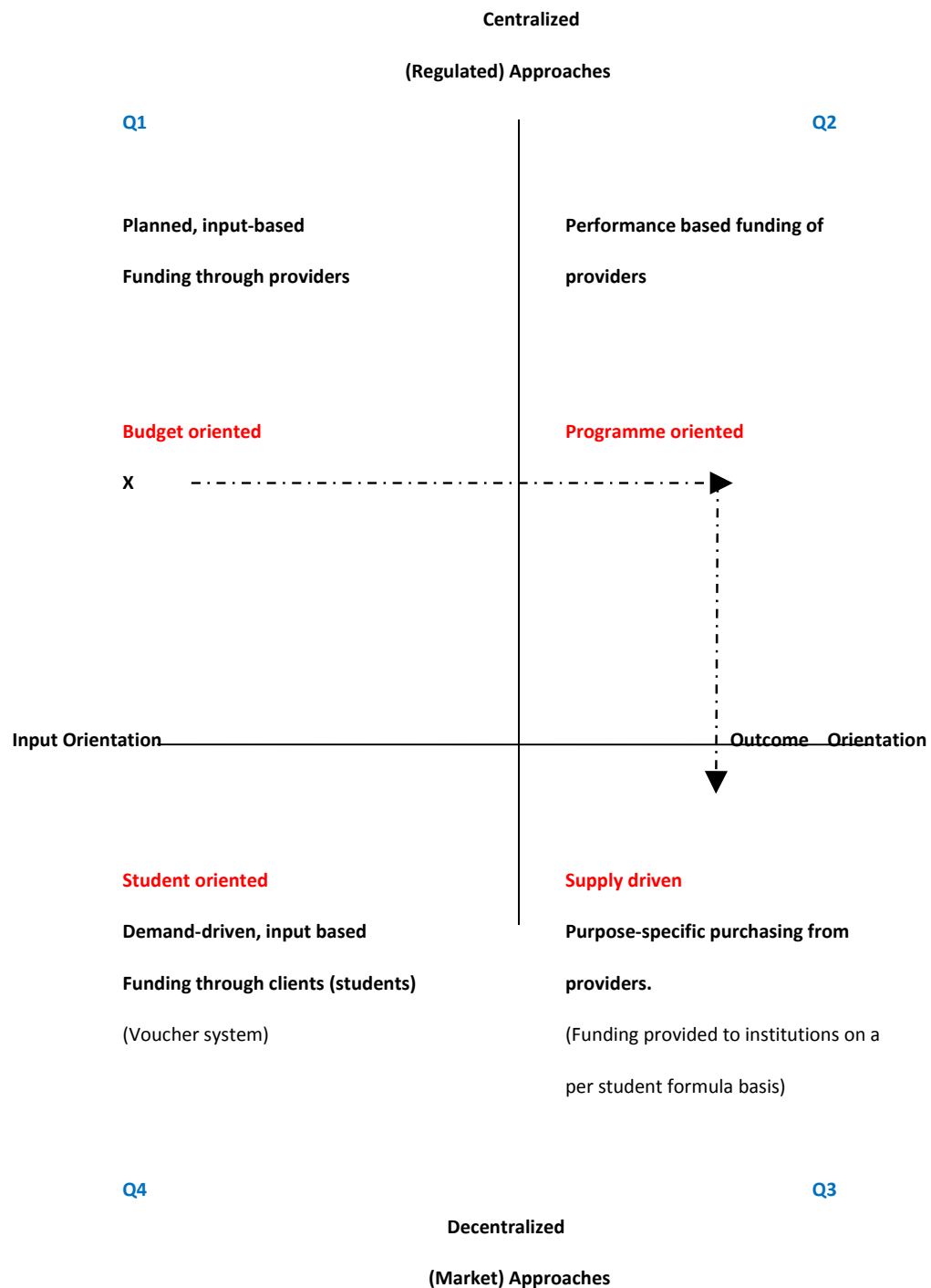


according to the two questions: (1) what is funded by the government and (2) how is it funded? These two questions were used as a framework for analyzing the funding pattern within the UAE. Question 1 concerns the basis of government allocations to higher education institutions: are funds tied to educational outputs and performance or rather to inputs? When funds are provided to cover on-going costs such as staff salaries and supplies and materials this refers to input funding. Likewise if budgets are driven by activities such as enrolled students this also refers to input funding since student enrolments will significantly determine the amount of inputs spent for instruction and operations. Output funding, on the other hand, entails funding arrangements whereby allocations are tied to specific institutional teaching and research outcomes, such as successful graduation rates, job placements or research contracts awarded.

Question 2 addresses the degree of market orientation in the funding arrangements. What are the decisions that drive the government funding allocations? What is the degree of competition implied by the funding decisions? Is funding regulated by central authorities or is the funding driven by decisions of the clients (students, private firms, research councils/foundations) themselves? (Jongbloed, 2004)

Displaying Question 1 and Question 2 in graph form Jongbloed identifies four quadrants to classify funding arrangements (See Figure 1). The vertical axis depicts the degree of (de-) centralization and the horizontal axis depicts the degree to which governments are paying for the results (outcomes) instead of the efforts (inputs). Quadrant one, top left, represents planned, input-based funding through providers. A centralized system of funding exists, where allocations are negotiated between the institution and the ministry or funding council, usually using the previous year allocation as a basis. Budgeting is by line item or by budget category such as salaries, service and supply requirements, and building operating and maintenance costs. Budget allocations for these line items or categories are usually based on unit costs (or unit cost increases) or capacity indicators such as funded number of students.

**Figure 1 : Jongbloed's (2004) funding model analysis applied to the UAE**  
**Progression of Funding Schemes within the UAE**



Quadrant two, top right, represents performance-based funding of providers. This is also a centralized system however funding is now allocated on the basis of outputs rather than inputs. Budget allocations, for example, could be tied to the number of successful credits (students passing exams) obtained by an institution within given subject areas. Job placements and research contracts awarded are other examples of outputs that could be tied to budget allocations.

Quadrant three, lower right, represents purpose-specific purchasing from providers. The funding approach has now shifted from a centralized (regulated) approach to a decentralized (market) approach. An example of this type of funding would be institutions being invited to submit tenders for a given supply of graduates or for a particular research project. Through the tendering process educational institutions, both public and private, would compete with one another to provide education, training and research as required to meet national needs. Funding contracts would be established between the government (or funding agency) and the institution identifying the criteria to be fulfilled. Such criteria could include the types and qualifications of students admitted to the higher education institution, the level of tuition fees (if any) levied by the institution, and the commitment made by the higher education institution towards its students in the instruction and teaching processes (Jongbloed, 2004).

Finally, quadrant four represents demand-driven, input-based funding through clients. Here funding is primarily through the use of vouchers. Governments make funds available to students in the form of vouchers which they exchange for educational services at the institution of their choice. The institution in turn cashes in the voucher with the government to obtain its funds. This type of funding system is demand driven in that it is the consumer that drives the system; the consumer (student) decides which institution to attend and which programmes to enrol in. The higher education institution, in order to ensure their programmes remain attractive, will need to monitor the quality of teaching and the offering of programmes.

Jongbloed (2004) in surveying the funding mechanisms in place across OECD states found that there has been a move away from negotiated line item funding (Quadrant 1) towards more transparent, formula performance based funding

(Quadrant 2) and in the case of research funding, a move towards more competitive funding mechanisms (Quadrant 3). Whether further movement towards more demand-driven systems of funding (Quadrant 4) will materialize remains to be seen.

The transformation of government funding of higher education within the United Arab Emirates has followed a similar pattern to that documented by Jongbloed. Shortly after the formation of the country in 1971, the first federally funded university, United Arab Emirates University, opened. A centralized system of funding was put in place where allocations were based on budget requests submitted to the Ministry of Finance and Industry (MOFI). The budget proposal contained detailed information on the inputs required such as staff salaries, supply requests and facility costs. Funding was negotiated between the institution and the MOFI on the basis of inputs required and the unit costs of these inputs. Negotiations for subsequent years were on an incremental basis, with the base budget at the same level of support as the previous year and only the items that were proposed as additions or deletion scrutinized. Monitoring and control focused on maintaining expenditures within budget allocations; control was on the cost of the inputs rather than on the purpose of the inputs. The same system of funding was applied to the Higher Colleges of Technology when it opened in 1988 and to Zayed University when it opened in 1998.

In late 2003 the federal government initiated plans to introduce performance based budgeting. The introduction of performance based budgeting in western institutions in the 1980's was in response to government demand for more accountability. The same rationale was given by the UAE Federal Government as stated in the following selected excerpts from its 2004 Guidelines for the Development and Implementation of Performance Based Budgeting (UAE, 2003):

“The United Arab Emirates (UAE) Federal Government has decided to introduce a performance-based budgeting framework. Performance-based budgeting represents a significant change to management culture in that it requires a change in focus from inputs to outputs... (incremental) budgeting does not provide decision makers with the information necessary to make informed decisions about expenditure priorities and to use the budget as a

tool for getting value for money. Programme budgeting reform is designed to improve decision-making by providing better information on how well Government services meet the community's needs. An emphasis is put on the "3 E's", that is Economy, Efficiency and Effectiveness...(p)erformance-based budgeting reinforces public sector financial management principles having the objective of improving resource allocation and management, service delivery performance and accountability."

As part of the implementation of performance based budgeting the three federally funded institutions were required to prepare three-year programme agreements outlining the outputs they intend to achieve. Within the agreements the institutions identified their respective key performance indicators and output measures. While the federal institutions were required to provide the required performance indicators and output measures the actual funding was not tied to these metrics. Rather the government continued to allocate funds on a negotiated, incremental basis thereby not implementing performance based budgeting in the true sense.

In mapping the history of the funding arrangements for higher education institutions within the UAE on Figure 1, the starting point would be the top left hand quadrant (Q1), depicting the past history of the federal government funding on an input basis and in a traditional incremental fashion reflective of a centralized, regulated approach. In 2003 the UAE federal government introduced performance based budgeting with the intention of changing funding from an input to an output basis, depicted as Quadrant 2 in Figure 1, however actual funding continued to be provided on a negotiated, incremental basis. In 2007 the Ministry of Presidential Affairs commissioned a report for the implementation of a per student funding scheme. The consultants engaged provided a report on funding public higher education institutions based on students enrolled in specific subject areas (supply driven funding – Quadrant 3 in Figure 1). The consultants further elaborated on how funds could be provided directly to students in terms of vouchers which in turn would fund the higher education institutions (demand driven funding – Quadrant 4 in Figure 1). In June 2008 the Cabinet of the UAE approved funding the public higher education institutions on a per student funding scheme based on students enrolled in specific subject areas (supply driven funding – Quadrant 3 in Figure 1). This

funding scheme as proposed was comprised of the following components and is detailed in Appendix 4:

- Per Student Funding Values: Differential values are calculated for four classes of programmes (medicine, laboratory-based, non laboratory-based, preparatory/foundation). The values are calculated based on full time equivalent students enrolled in the programmes multiplied by programme costs weighted by degree level. Programme costs are comprised of academic salaries and benefits, derived through benchmark compensation and faculty: student ratio values, together with all other expenditures calculated as a ratio of academic compensation. Added to this resultant funding is additional funding to address unique costs incurred such as medical doctor salaries, Emiratization training, and size and scope costs relating to the operation of small classes in geographically dispersed and gender separated campuses and the offering of multiple programmes.
- Fee-for-Service Contracts: Additional funding provided to universities to recognize their specific characteristics, such as the education of doctors, the provision of postgraduate education, the conduct of research and the provision of expensive programmes. This funding is to be based on a contract that states explicitly what the university will provide in exchange for this funding.
- Performance Contracts and Incentives: Funding for this element entails agreement between the government and the universities about performance indicators and participation in quality assurance and improvement programmes. Each agreement would contain a core set of performance indicators, along with indicators relevant to the particular institution as well as outcome measures identified in the fee-for-service contracts. The funding proposed for this element is 2.5 per cent of the total funding providing to the university, an amount that is believed to be sufficient to get the attention and motivation of the universities.

While the Cabinet had approved the per student funding scheme not all of the elements have been implemented to date, namely the fee-for-service contracts and the performance contracts and incentives. As well there has been no regular and systematic updating of academic salaries and benefits to ensure current

benchmarking as called for in establishing the per student funding values. According to officials within the federal Department of Finance the funding levels for universities, and all other public expenditure, will not be altered until the fall of 2014, at which time new funding levels are to be established for a set number of years. As such it is not expected that any further adjustments will be made to the per student funding scheme until the new funding levels are approved. This freeze in funding levels has raised concerns by the federal higher education institutions as to level of quality education that could be delivered, with arguments being made that competing for students is not a substitute for adequate levels of funding.

### **3.3. Resource Allocation Funding Mechanisms – Strengths & Weaknesses**

From the previous discussion on the different resource allocation funding mechanisms utilized by the UAE one can look at the strengths and weaknesses of each model and identify the common trends that have occurred globally. Government funding of higher education within North America, the U.K. and a number of European countries has seen a shift to a greater focus on accountability (Orr, 2005; Duderstadt, 2000; Massy 1996). The traditional resource allocation and regulatory systems are no longer seen to influence, let alone control, the strategic directions of higher education institutions (Orr, 2005; Massy 1996). Governments are moving away from the common incremental budgeting approach and are looking at new approaches to improve accountability while still allowing operating units to maintain autonomy over their internal affairs (Massy 1996). The following sections examine the different resource allocation models employed by governments over time, and the strengths and weaknesses of each, starting with the incremental budgeting approach.

#### **3.3.1. Incremental Budgeting**

Historically resource allocation processes were centralized, tightly controlled from the center and usually referred to as line-item budgeting or incremental budgeting (Duderstadt, 2000). Under this system a unit began the year with the same level of support it had the previous year and only the items that were proposed as additions or deletions were scrutinized. Adjustments to the base would be subject to factors

such as inflation, the unit's perceived needs and the financial capacity of the institution. Control over expenditures was primary, ensuring that expenditures were within budget and within approved categories rather than the accountability of the purpose and the results of the expenditures. Massy (1996) has identified additional assumptions also implicit in the traditional incremental budgeting system such as 'property rights', academic time constraints, and central administration responsibility. Property rights are in reference to programmes once approved having the right to on-going continuance, barring drastic circumstances. Academic programmes and faculty contracts are seen as being constrained by short-term financial fluctuations and central administration is viewed as having the responsibility for the financial health of all the academic units. Under these assumptions traditional line item budgeting can be viewed more as a matter of coping and conflict management rather than putting scarce resources to the best possible use (Massy, 1996). If a university is unable to have the capacity to set priorities and allocate resources to these priorities it raises the question of the institution being able to preserve its core values, mission and character.

### **3.3.2. Performance Funding and Performance Budgeting**

As the accountability movement gathered momentum during the 1980's governments began questioning what institutions should be doing for the state, rather than what the state should be doing for public colleges and universities (Lasher, 2004). Performance based budgeting approaches were seen as the reform to efficiently manage the resources at the institution level.

In performance funding, specified state funding is tied 'directly and tightly to the performance of public campuses on individual indicators ... In performance funding, the relationship between funding and performance is tight, automatic and formulaic. If a campus achieves a prescribed target or an improvement level on defined indicators, it receives a designated amount or per cent of state funding.' (Burke & Minassians, 2001). Performance budgeting, on the other hand, is more flexible. '(It) allows governors, legislators and coordinating or systems boards to consider campus achievement on performance indicators as one factor in determining campus allocations ... In performance budgeting, the possibility of additional funding



due to good or improved performance depends solely on the discretion of state, coordinating or system officials.’ (Burke & Minassians, 2001).

While performance based budgeting and funding focuses on accomplishments and results rather than on inputs and processes, it also has its weaknesses, as referenced by Lasher (2004, p. 222) to include “difficulty in defining performance criteria and appropriate measure; a tendency to measure only that which is most easily measured along with outright manipulation of results; long time gaps for institutions between measuring an accomplishment, achieving a goal and receiving the associated funding; and having performance measures developed at the state level and imposed on institutions.”

Massy (1996) also states that performance based budgeting and funding does not address the issue of externalities which arise when the costs or benefits accruing from one unit’s performance affect that of another. While funds should be withheld from an operating unit that pursues its goals at the expense of the institution this is rarely done. Units therefore tend to see most of their costs as fixed, thereby inhibiting them from responding to market forces. In response to this shortfall, some institutions have turned to Responsibility Center Budgeting which responds to market forces and encourages entrepreneurialism.

### **3.3.3. Responsibility Center Budgeting / Cost Center Budgeting**

Harvard’s President James Conant is credited with originating responsibility centre budgeting with his statement “Every tub stands on its own bottom; each dean balances his own budget” (Lasher, 2004, pp. 223-224). Under this approach units are seen as being self-supporting, with each unit needing to raise sufficient revenues to support projected expenditures. The fundamental premise “being the completion of the authority responsibility circle within affinity groups of disciplines: giving the faculty of schools or departments specific, measurable incentives to exercise their considerable authority responsibly for the benefit of themselves, their students, their organizational units, and the institution as a whole. With the right incentives, faculty become advocates for change and actions they might normally resist strongly, if advocated by others, especially central administrators” (Strauss &

Curry, 2002, pp. 1-2 ). Responsibility centre budgeting is on the opposite end of decentralization from performance budgeting. While performance budgeting focuses on intrinsic values with funds provided in blocks to operating units according to recent performance and future plans and are assessed in relation to the vision, mission and goals of the institution, responsibility centre budgeting focuses revenue responsibility on the operating units and virtually all the revenues are devolved to them (Massy, 1996).

While responsibility centre budgeting encourages entrepreneurship by giving operating units greater responsibility for budget development and control it also contains weaknesses which include (Lasher, 2004, p. 225) “academic programmes becoming more budget-driven at the risk of sacrificing academic performance and priorities, and likewise, professional units may thrive while core academic units are pressured to generate sufficient revenue.”

### **3.4. Devolution of Spending Authority**

The discussion in the previous section has identified different resource allocation models for institutions to consider as they attempt to align their missions and values with the resources available. One could say that choosing the right resource allocation method is as simple as ‘putting the money where it will make the most good’ (Massy, 1996). It is likely more than this. ‘Process – the way decisions are made and communicated –powerfully affects outcomes’ (Hoenack, 1994). Massy (1996) states that this process needs to take into account three keys for effective resource allocation: understanding the incentives that guide spending in colleges and universities; recognizing and managing the diversity of intrinsic values within higher education institutions and managing complexity. Resource allocation methods therefore need to address the question of how to decentralize budget-making authority without abandoning institutional-level values and priorities; how to make use of the expertise and motivation residing within institutions without losing the funding agent’s ability to influence outcomes (Massy, 1996). Putting this process into practice requires strong institutional leadership as well as plans and initiatives based on good information and rational decision processes (Lasher, 2004). As stated by Thomas (2001, p. 89) “whatever style and methodology are applied for allocating resources and whatever the institution’s policy on the degree

of devolution adopted, the ultimate responsibility for financial management lies with the institution centrally, and in particular with the chief executive and senior officers.” This raises the question of how senior management actually develops the methodology for allocating resources and the degree of devolution. What are the factors that influence these decisions? These will be considered in the next section.

### **3.5. Determining Factors for Distribution of Resources**

While much of the literature on devolution of resources addresses the approaches and rationale for such a decision the literature on the various factors that influence the internal methodology applied is more limited. Massy (1996) touches on this in general terms and has identified three keys to effective resource allocation, the first being the system of incentives that guides spending in colleges and universities. A good resource allocation system he states will ensure that an institution will be able to have the proper balance between its intrinsic values and those of the marketplace. Intrinsic values need to be considered when a programme has low financial potential but is key to the institution's academic vision; in this case cross-subsidization is necessary. Market forces however cannot be ignored as this can place the institution at financial risk. A second key is the recognition and management of the diversity of intrinsic values within any higher education institution. Different staff, be they faculty, administrators or government funding officials, have different views on what is intrinsically important. Effective resource allocation will require the alignment of these competing individual values with that of the institution. Finally Massy identifies the management of complexity as a third key to effective resource allocation. Higher education institutions are professional organizations with a host of experts involved in various contexts; the complexity arises as each of these individuals in their different roles interacts within the resource allocation process.

Thomas (2001, p. 93) delves more deeply into the various factors that influence the internal methodology applied and suggests that there is a range of issues affecting the extent to which financial management is centralized or devolved, starting with “prerequisites” such as senior staff appointments, staff training, support mechanisms and effective information systems and monitoring procedures. In addition there are “determinant” factors such as “the history and culture of the

institution, its size, subject mix and organizational structure, financial health of the institution and its component parts, activities of powerful interest groups, the preferences and priorities of key staff and strategic priorities.”

The sections below provide a summary of Thomas’ discussion on these factors.

### **3.5.1. Prerequisites**

#### **3.5.1.1. Suitable Senior Staff Appointments**

The appointment of senior staff to manage the budgets arising through the introduction of devolved, formula-based systems of resource allocation can give rise to a tension between managerial and academic imperatives. Traditional heads of academic departments may not be seen as managerial heads. Likewise an over emphasis on managerial experience may short change the necessary academic requirements. Central authorities therefore need to take a more proactive role in the appointment of senior staff positions to ensure a proper balance between managerial and academic competencies.

#### **3.5.1.2. Staff Training and Development**

Training and development for academic and administrative staff needs to become part of a wider organizational learning process. Ideally they should be used to prepare staff in advance rather than following a change process. Training should encompass not only in-house activities which would likely focus on local procedures and practices but should also encompass regional programmes where department heads can exchange experiences and discuss problems with colleagues from other institutions.

#### **3.5.1.3. Support Mechanisms**

Staff training and development needs to be supplemented by adequate institutional support for academic managers. This support includes adequate information systems (discussed next) as well as the administrative staff support and the structuring of management teams to alleviate academic managers of detailed tasks. Good communication between the central administration and the academic

managers is also essential to ensure operations are in alignment with the strategic plans of the institution.

#### **3.5.1.4. Adequate Information Systems**

A danger of the introduction of a devolved formula-based system of resource allocation is the growth of multiple management information systems. Systems integration needs to become an overriding principle to ensure that information is consistent and can be delivered in a timely fashion and in a manner that is easily understood and meets the requirements of academic departments and central administration. It may be prudent to delay the introduction of a devolved, formula-based system until such time as an integrated system has been implemented. Care also needs to be taken to ensure that the principles underlying reporting methodologies are capable of being put into practice. Allocation of indirect costs and calculations of student load are given examples.

#### **3.5.1.5. Effective Monitoring Procedures**

While devolution in essence empowers operating units to respond more closely to the market, the central administration still has the responsibility for ensuring adequate budgetary control mechanisms and the monitoring of performance. Issues such as approval for commitments and the carrying forward of surpluses or deficits need to have clear rules and procedures. In effect there needs to be a balance between encouraging entrepreneurial activity at a budget center level and ensuring effective central control.

### **3.5.2. Determinants**

#### **3.5.2.1. Organizational Structure**

The extent to which financial management is centralized or devolved is further impacted by the relationship between organizational units and central institutional authorities, that is, whether managerial authority lies at the center or at a departmental level or at an intermediary level such as a faculty or school. In either case there needs to be an alignment of budgetary responsibility with managerial responsibility. Creating budgetary units that superimpose an existing level of

managerial responsibility will result in a new unit being created as a secondary distribution to the level already in operation. This ultimately results in increased administrative tasks and perhaps increased micro political activity focused around existing centers of power.

#### **3.5.2.2. Organizational Culture**

The culture of an organization can be viewed through its degree of policy definition and its control of policy implementation. This is illustrated in McNay's quadrant model (Thomas 2001) identifying institutions as collegial, bureaucratic, corporate or entrepreneurial. Senior managers need to determine whether they wish to build on the institution's existing culture or whether to use the methods of managing financial resources to shift the culture of the organization. Increased devolution will enhance the managerial role of department heads while central administration will need to engage in more "interactive, interpersonal and facilitating functions".

#### **3.5.2.3. Size**

The size of a budget unit can affect its ability to respond to financial pressure. If, for example, salaries are devolved to a small budget unit this will likely comprise the majority of the unit's total expenditures. This leaves the unit with little flexibility to improve its financial position as most of its costs are fixed. Decisions of an optimal budget unit size therefore need to be made, and amalgamation of smaller units may be necessary. In such cases attention needs to focus on the disciplines and backgrounds of the units to make the amalgamation as seamless as possible.

#### **3.5.2.4. Subject Mix**

Thomas suggests that the subject orientation of department heads may affect their reception to devolution. Science oriented heads, through their professional backgrounds and experience in managing large research contracts, are seen as more adept to devolution than their arts-based colleagues. Senior managers need to be aware of how subject mix may affect the internal management of departments and the possible associated micro political activity.

### **3.5.2.5. Financial Health of the Institution and its Component Parts**

The introduction of a devolved system of resource allocation is optimal when the institution and individual budget centers are in a surplus position. In reality it is more likely that some budget centers will be surplus position while others will be in a deficit. Senior management will therefore need to have policies in place regarding cross-subsidization between surplus and deficit departments and will need to determine whether over time all departments must operate on a self-sustaining basis.

### **3.5.2.6. Priorities and Preferences of Key Individuals**

A few key individuals, namely the vice-chancellor or chief executive, through their priorities and preferences can influence the system of resource allocation adopted. Chief executives can impose their style of management, be it centrally setting direction and maintaining control, or devolving control to lower levels. The preferences for allocating resources can also favor formulaic approaches or retaining the flexibility to exercise discretion and power subjectively.

### **3.5.2.7. Activities of Powerful Interest Groups**

In the developmental stages of a resource allocation model, micro political activity can influence the items to be devolved and the factors used in the model, consequently affecting the long-term financial health of departments. Within the budgeting cycle greater influence would now occur at the formulation stage of the resource allocation model. The involvement of deans and department heads, while necessary for wide ownership of the process, also opens up the door to powerful interest groups influencing the decision making process.

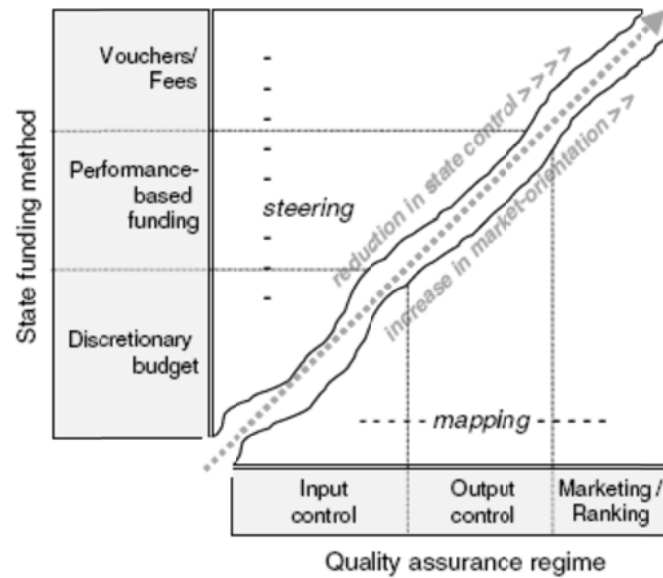
## **3.6. Institutional Steering and Control**

Resource allocation models are but one part of a national government's approach to the control and steering of a higher education institution. Quality assurance instruments are complimentary factors. Dominic Orr, in his paper on Funding

Allocation and Quality Assurance in Higher Education (Orr, 2005) states that the instruments of funding allocation along with instruments of quality assurance have become the preferred levers of change in steering and coordinating higher education reforms during the past 10 years. New funding models, as illustrated through Jongbloed's analysis, have shifted from centralized input-based funding schemes to performance based funding with further movement to market driven funding schemes. Orr (2005, p. 34) states "models of external quality assurance are utilized to 'illuminate' the performance of universities. Their function is that of mapping university activity, for transparency and accountability." While resource allocation instruments concern the operation of higher education processes, evaluative instruments are concerned with norms, which determine the boundaries of the operation (Becher & Kogan, 1992). Together the two factors provide a framework of national government steering and control of higher education institutions. Figure 2 illustrates the relationship between these two policy instruments and puts forth the argument from Orr (2005) that due to the interdependence of the policy instruments "a funding method with a degree of state control is likely to be matched with a quality assurance method involving a similar degree of state control to provide an adequate coordination framework. Conversely, a method of quality assurance based on the market principle only comes to fruition in a system where it is used in conjunction with a method of funding that has a higher degree of market orientation" (Orr, 2005, pp. 35-36).



**Figure 2 : Funding Allocation and Quality Assurance Coordination Framework**



**Source: Orr (2005)**

In Figure 2 the vertical axis illustrates the funding methods, driven by either the state or the market, as discretionary funding, performance based funding and voucher or fee driven funding. The horizontal axis depicts three methods of quality assurance: input control, output control and marketing. Orr (2005) proposes that the challenge is to find a balanced mix between state and market and that this balance is currently being sought by using funding and quality assurance as instruments to enable both steering and mapping of university activities.

Applying this framework to the federally funded higher education institutions within the UAE highlights the need for a quality assurance regime to accompany the progression towards a voucher funding scheme. This is further discussed in the concluding section.

### **3.7. Conclusion**

In many countries across the world there is a growing tendency for governments to introduce more market-type mechanisms for coordinating their national higher education sectors (Williams, 1995; Dill, 1997; Brown, 2013). The progression of higher education funding within the UAE has also shown a move towards market-based policies. Historically the government funding of higher education followed an incremental budgeting approach, with funding levels largely based on inputs such as the approved number of faculty, staff and students. A later funding model attempted to introduce a performance based funding approach which the government believed would improve accountability while allowing the higher education institutions to maintain autonomy over their internal affairs. An initial shift towards a market approach to funding higher education occurred in 2008 when the UAE government introduced the current per-student funding mechanism for the federal institutions, with funding values differentiated based on programme and subject levels and tied to the number of students enrolled. It was during this time that the UAE government also considered the introduction of voucher funding for higher education.

Greater efficiency and greater responsiveness are usually the main benefits identified for market-based policies. The market forces that have driven the rapid development of the UAE economy could also be seen as the government's attempt to drive competition and efficiencies within its higher education system. Putting funding in the hands of students would require the federal higher education institutions to be more responsive to student choices and thereby require the institutions to offer programmes and services of a higher quality than their competitors in order to attract more students.

While voucher funding, as a market model, strives to deliver efficiency in the economic sense, it is also subject to market failures, with quality often the main casualty. Information problems that contribute to market failure, often described as 'information asymmetries' (Dill, 2004, p. 61) can occur where information on quality can vary significantly between suppliers and consumers. Brown (2013, pp. 124-125) however argues that in higher education the problem is not so much about the unequal distribution of information but rather that " no one has or can have the

information to make the same judgements about quality and suitability that they might make about a physical product or a less complex service.” Brown further argues that competition may damage quality by commodifying knowledge and lowering standards through grade inflation as well as diverting resources away “from learning and teaching to activities like marketing, enrolment, student aid and administration.”

The effective monitoring and regulation of quality is required to ensure competition does not erode quality standards. The UAE government therefore in considering voucher funding needs to have necessary oversight and applicable regulations in place to ensure that its higher education institutions not only deliver the educational programmes required to meet its national priorities but also to ensure international quality standards are maintained. The concept of ‘efficiency’ as it relates to voucher funding and its relationship to ‘quality’ is further discussed in subsequent chapters. For now we refer the discussion to the research methodology for this project.

## **4. Chapter Four: Research Methodology**

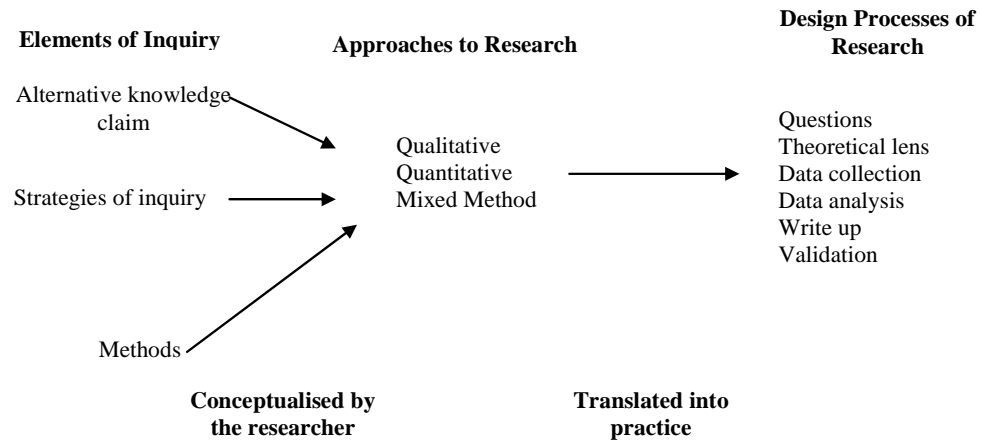
### **4.1. Introduction**

Moving forward from the discussion on the background to the research question the next stage in the research project was to establish the research methodology for conducting the study. Silverman (2005, p. 303) states that in writing up qualitative research one needs to recognize, amongst other considerations, “the reasons why the research progressed the way it did, taking into consideration both analytical and chance factors, and the theory supporting the chosen research methodology”. In essence Silverman (2005, p. 303) asserts that in writing the research methodology chapter one should simply “spell out your theoretical assumptions”. Silverman further elaborated on this call for transparency about research methodology on “how one went about their research, the overall strategy adopted and why, the design and techniques used and why these were chosen and not others” (Silverman 2005, p. 305). These questions, in practical terms, served as a guide for defining the research methodology for this project.

### **4.2. Research Approach**

As a starting point for developing the research framework, and following Silverman’s (2005, p. 303) assertion that the research methodology should recognize “the (contested) theoretical underpinnings of methodologies”, the research approaches of Creswell (2003) and Punch (2006) were considered, as these offered two “contested” views. Figure 3 depicts Creswell’s view. He believes that before a research framework can be established one has to consider the elements of inquiry, that is, the knowledge claim, the strategies of inquiry and the data collection and analysis methodologies. Creswell combines epistemology and theoretical perspectives and contends that a researcher in stating a knowledge claim starts out with certain assumptions about how, and what, would be learnt during the inquiry. Creswell follows what Punch (2006, p. 20) defines as “methodolatry ...putting method before content. It is first learning the research method, then finding research questions that can fit into the method”.

**Figure 3: Knowledge Claims, Strategies of Inquiry, and Methods Leading to Approaches and the Design Process**

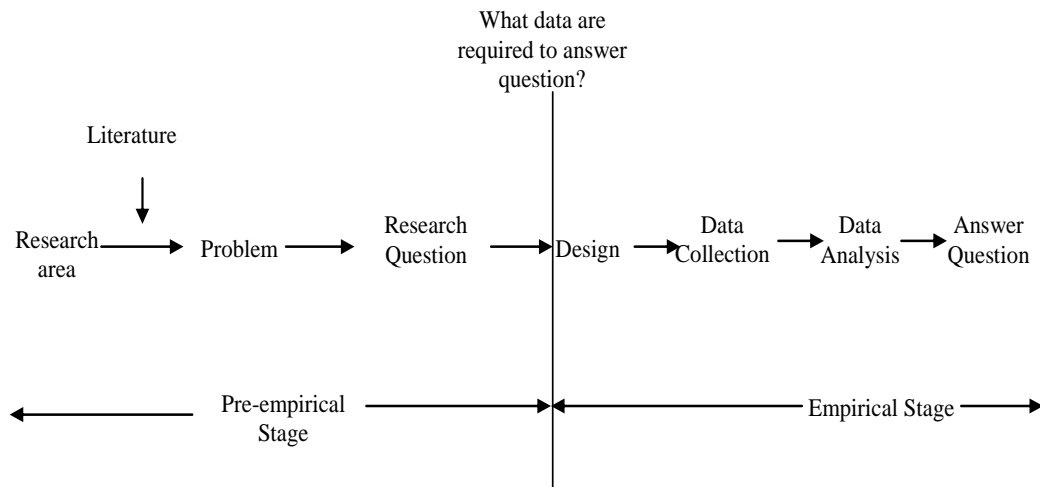


**Source: Creswell (2003:5)**

Conversely Punch (2006) contends that rather than finding research questions that can fit into a particular method (adapting questions to the design and method) research is better undertaken when one identifies the research area, the questions that need answers and then fitting the methods and techniques to the questions (adapting design and methods to questions). Figure 4 depicts his view. Punch (2006) contends that adopting a particular perspective could possibly influence the methods of research and the research questions.

In reviewing the two approaches the conclusion was that Punch's approach was the best fit for this research. It lays out a logical framework and one that could easily be adapted to this project. The research area for this project has been identified as vouchers as a funding scheme for higher education institutions, and the associated implications thereof. Through the literature review and in the context of funding alternatives considered by the federal government of the United Arab Emirates the research question and interview questions were determined. From this point onward it was a matter of choosing the appropriate research method and proceeding with the data collection and analysis. Punch therefore provided what was considered a more natural and easily adaptable approach for this research.

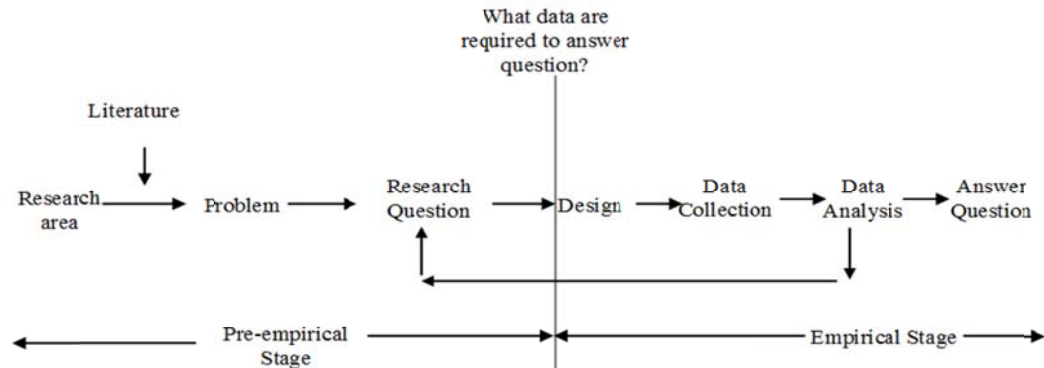
**Figure 4 : Punch Simplified Model of Research (Without Hypotheses)**



**Source: Punch (2006:40)**

While Punch's model shows a linear progression of the tasks to be undertaken in the research project it is proposed that there needs to be a feedback loop to illustrate the likely need for a further literature review and further refining of the research question and interview questions arising out of the data analysis. As such Figure 5 restates Punch's simplified model of research to include this feedback loop to both the research question and to the literature review, in keeping with Silverman's (2005) contention that the most relevant and current literature be reviewed based on the findings and analysis of the data.

**Figure 5 : Punch Simplified Model of Research (Without Hypotheses) - Modified**



**Source: Punch (2006:40) – as modified by the author.**

As shown in Figures 4 and 5, Punch's model identifies seven main tasks:

1. Assessing the research area and problem
2. Undertaking the literature review
3. Defining the research question and interview questions
4. Research design - determining the strategies for data collection and analysis
5. Collecting the data
6. Doing the data analysis
7. Answering the research question.

The tasks of assessing the research area and problem and undertaking the literature review have been addressed in Chapters One and Two respectively. The following sections provide an outline of the remaining tasks identified in Punch's model and how these relate to the research project, beginning with the research question.

### **4.3. Research Question**

Punch (2006:37) stipulates that the research question guides the project and is what the research is designed to answer. As discussed, the UAE federal government has given consideration to implementing a voucher system for funding higher education institutions. While a number of countries have considered voucher funding for higher education, as discussed in the literature review, there are few examples of actual implementation. This raises various questions as to the advantages and limitations of such a funding scheme for the UAE, the objectives of the federal government, and the potential impact on students and the higher education institutions. As such the main research question has been formulated as:

**What are the consequences, intended and unintended, of implementing a voucher system for funding higher education within the United Arab Emirates?**

In formulating the main research question three primary actors have been identified: the UAE federal government, as the main provider of funds, higher education institutions, as providers of higher education, and students, as the recipients of higher education. With the main research question established, and the three primary actors for the project identified, the literature review was then referenced to identify the common themes associated with voucher funding of higher education. For the themes identified an overarching question was then established that questioned whether voucher funding would deliver the results purported in the theme, or how, as the case may be.

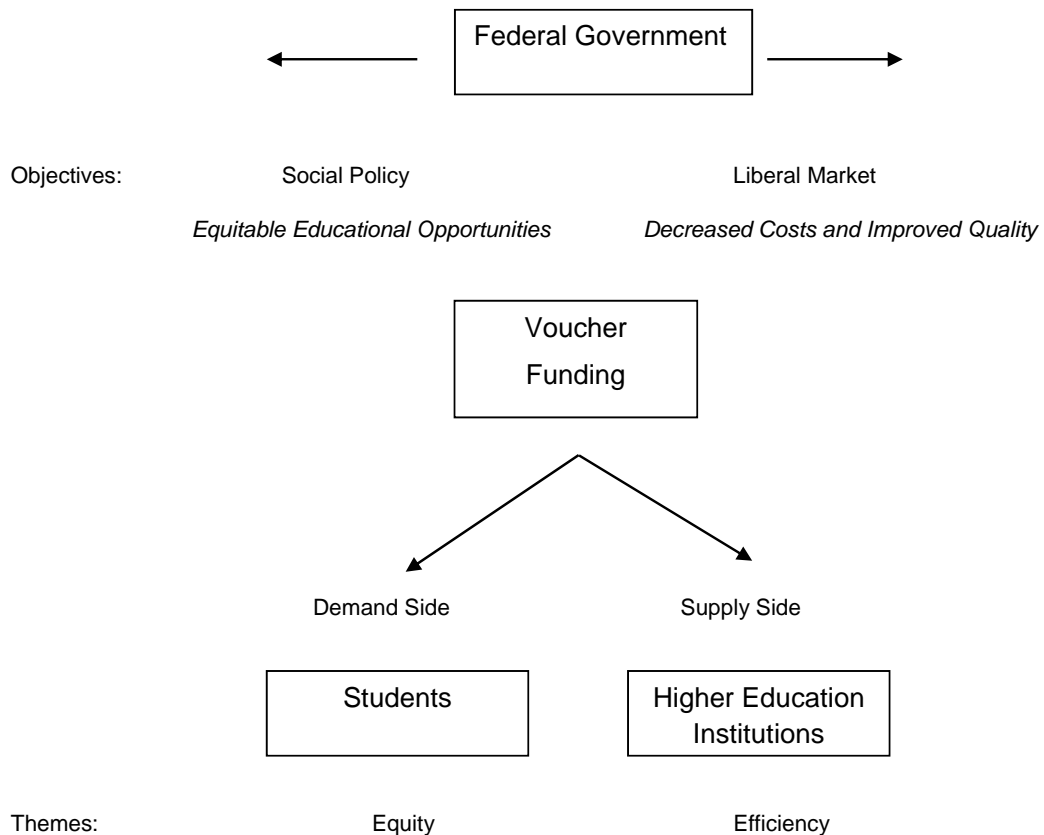
Two main government policy objectives were identified in the literature review for considering implementing vouchers as a funding scheme. The liberal market approach, advocated by Friedman, sees vouchers providing public funding indirectly through the consumers (students) rather than directly to the providers (higher education institutions). It is argued this approach will improve quality and efficiency through competition. For institutions to attract more students they will need to make provision that is of higher quality than their competitors. This led to the overarching question: 'Will increased competition result in institutions raising their quality



standards to attract more students?’ From this overarching question relevant interview questions were established, such as “How will voucher funding provide incentives to institutions to improve quality and make better use of public funds?’ and ‘How will institutions ensure quality standards are maintained or increased?’

The social policy approach, as advocated by Jencks, sees vouchers increasing the equality of educational opportunities as students with a voucher would have equal access to higher education institutions. The corresponding overarching question was established as ‘Does voucher funding achieve equal access to higher education?’ followed by relevant interview questions such as ‘Should all Emirati citizens, regardless of age, be eligible for vouchers?’, ‘Or should vouchers be limited to young UAE Nationals leaving school?’, ‘Should voucher funding be extended to expatriate students?’ and ‘Should vouchers be tied to particular regions of a country to facilitate equal access?’

**Figure 6 : Voucher Funding Scheme Actors and Primary Objectives and Themes**



While equity and efficiency were seen as the two primary themes identified in the literature review (illustrated in Figure 6), the literature also revealed a number of additional themes. For each of these themes the same approach was applied in defining an overarching question which in turn led to the relevant interview questions.

These additional themes, their overarching question, and sample interview questions, are summarized as follows:

- Student decision making and awareness: Ability of students and institutions to acquire information and to understand the long-term economic, political and social value of a college education (Massy, 2004). Overarching question: 'Does voucher funding provide students with more freedom to choose their higher education institution and does it make students more aware of, and more motivated to take control of, their higher education?' Sample interview questions: 'Are students (and their parents) able to make informed decisions about which institution to attend?', 'If you had been given a voucher to attend any institution in the UAE would you have enrolled in a different university than the one you are currently enrolled in?', 'Do you think voucher funding makes students more aware of the cost of higher education?' 'Do you think voucher funding makes students more aware of the government's strategic priorities and labour market requirements?'
- Protecting subjects and government steering: Voucher values or funding adjustments a government would likely need to consider to protect subjects and address national strategic priorities (Jongbloed, Koelman, 2000). Overarching question: 'How can voucher funding support a nation's strategic and economic objectives while also protecting its history?' Sample interview questions: 'Should specific vouchers be tied to certain courses that support a nation's strategic and economic objectives e.g. physics, engineering, medicine?', 'Should specific vouchers be tied to certain courses such as classics or history to ensure their protection?'

- Funding requirements: Financially, the challenge for governments to control expenditures based on the premise of a fixed value of a voucher and open access to students (Levin 1998; Bekhradnia and Massy, 2009) Are there market based alternatives to vouchers? (Barr 1998; Bekhradnia and Massy, 2009). Overarching question: 'How can governments control costs if vouchers are driven by student choice?' Sample interview questions: 'How can government limit the number of vouchers given that funding is not open ended and at the same time address widening access?', 'Should voucher funding be extended beyond federal universities?', 'Should top-up fees be allowed to supplement vouchers?', 'Are there funding alternatives to vouchers that promote competition and student choice?'
- Resource requirements: Implementation of a voucher system will require administrative systems and functions for the collection and tracking of programme and subject based information of individual students as they progress through their studies (Bekhradnia and Massy, 2009). Overarching question: 'How would a voucher system impact resource requirements and administrative costs?' Sample interview question: 'What additional administrative requirements and costs might higher education institutions incur from the implementation of a voucher funding scheme?'
- Physical facilities and geographical location: Student choice being limited by geographical factors and constrained by the capacity of physical facilities and infrastructure (Hough, 1987). Overarching question: 'How can the provision of physical facilities and limitations due to geographical area be addressed in a voucher funding scheme?' Sample interview questions: 'Would popular institutions need to expand and contract more buildings and appoint more staff?', 'Would there be a mismatch and waste of physical spaces – even for popular institutions?', 'How would students from rural areas be provided with equal access to educational institutions as those from urban areas?'

Having established the themes and overarching questions an initial set of interview questions were drafted according to the structure shown in Table 2.

**Table 2 : Interview Questions Development - Original**

Theme	Sub-Theme	Question	Actors				
			Gov't Official	Public Univ. Admin.	Private Univ. Admin	Students Public Univ.	Students Private Univ.
1.0 Government objectives	1.1.0 Efficiency		X	X	X		
	1.2.0 Equity		X	X	X	X	X
	1.3.0 Protecting subjects		X	X	X		
	1.4.0 Funding		X	X	X		
2.0 Resource requirements and administrative issues	2.1.0 Resource requirements		X	X	X		
	2.2.0 Physical facilities and infrastructure		X	X	X		
	2.3.0 Geographical access		X	X	X	X	X
	2.4.0 Central agency		X	X	X		
	2.5.0 Organizational culture		X	X	X		
3.0 Alternative funding models			X	X	X		

Government objectives, resource requirements and administrative issues, and alternative funding models were identified as the main themes. Efficiency, equity,

protecting subjects, and funding were listed as sub themes of the government objectives theme. Resource requirements, physical facilities and infrastructure, geographical access and organizational culture were listed as the sub themes for the resource requirements and administrative issues theme. The questions were then allocated to each respective actor, as shown in Table 2, based on how these questions were perceived to be most relevant to the actor's areas of responsibility.

From this exercise a total of 54 questions were developed, guided by the discussion in the literature review. These questions are listed in Appendix 1. In reviewing the questions with the thesis supervisor it became apparent that too many questions were proposed. Given that interviews with government officials and university administrators would likely need to be limited to one hour, or less, it was deemed not practical to cover all of the questions. As well there was some overlap between questions that could be resolved through a consolidation of these questions. The structuring of the themes and questions was also reviewed. It was concluded that structuring the themes based on the perspectives of the government, the higher education institutions and the students, and matching these themes with the related sub-themes and questions would provide a more logical and effective means of data collection and analysis. Under this approach interviews would be held with each of the actor groups based on the themes and questions that were seen as naturally associated with the respective actor, and in some cases, falling under the authority of the respective actor. The resulting structure that was established for developing the final interview questions is shown in Table 3 while the related interview questions that were developed are listed in Appendix 2.

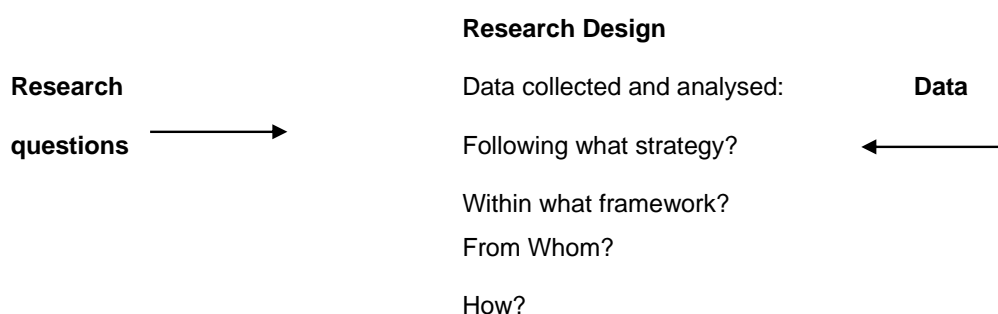
**Table 3 : Interview Questions Development - Final**

Interview Questions			
Theme	Sub-Theme	Questions	Explanatory Notes
<b>1. Government Perspective</b>	<b>1.1. Efficiency</b>		
	<b>1.2. Equity</b>		
	<b>1.3. Protecting Subjects &amp; Government Steering</b>		
	<b>1.4. Funding Requirements</b>		
	<b>1.5. Alternative Funding Models</b>		
<b>2. HEI Perspective</b>	<b>2.1. Resource Requirements</b>		
	<b>2.2. Physical facilities and infrastructure</b>		
	<b>2.3. Geographical access</b>		
	<b>2.4. Organizational Culture</b>		
<b>3.0 Student Perspective</b>			
	<b>3.1 Student Choice</b>		
	<b>3.2 Student awareness and motivation</b>		
	<b>3.3 Student life-long learning</b>		

## 4.4. Research Design

In the previous discussion on the research approach, the general research design was described in Punch's (2006, p. 142) terms as the overall plan for a piece of research which includes the strategy, the conceptual framework, the question of what will be studied and the tools to be used for collecting and analyzing data. Punch (2006, p. 142) further elaborates that whether research questions are prespecified or whether they are developed during the course of the research project "the design still needs to connect the question to the data, and to fit in with both". The research design, as illustrated in Figure 7 (Punch 2006, p. 63), shifts the focus from what data is required to how will the data be collected and analysed through the use of the four questions listed:

**Figure 7 : Research Design Connecting Questions to Data**



**Source: Punch (2006:63)**

A number of qualitative research designs have been identified to answer these four questions. Mertens (1998) points to twenty-six types of sub-strategies in qualitative research by Tesch (1990) and of these, emphasized seven:

1. **Ethnographic research** – a method designed to describe and analyse practices and beliefs of cultures and communities (Tesch 1990).
2. **Case study** – “a method for learning about a complex instance, based on a comprehensive understanding of that instance obtained by extensive descriptions and analysis of that instance taken as a whole and in its context” (U.S. General Accounting Office, 1990, p.14).

3. **Phenomenological research** – the study of the way in which members of a group or community interpret the world and life around them (Holstein and Gubrium, 1994).
4. **Grounded theory** – “a general methodology for developing theory that is grounded in data systematically gathered and analysed” (Strauss and Corbin, 1994 p. 273)
5. **Participative inquiry** – required the participation of all the people in the research process either by not explicitly addressing power relations (co-operative inquiry) or by the recognition of power issues and a goal of transforming society (participatory action research – PAR)
6. **Clinical research** – “the investigation of physical, behavioural, cultural, historical, social, emotional, and spiritual ramification of what is going on with the body, what is happening with a person’s life and who has what power” (Miller and Crabtree, 1994, p. 342).
7. **Focus groups** – group interviews that rely, not on a question and answer format of interview, but on the interaction within the group (Morgan, 1988).

Of Mertens’ (1998) seven types of qualitative research outlined above, all except grounded theory and case study were ruled out initially because they have to do with the study of culture or people therefore they did not fit the nature of this inquiry. Grounded theory, while identified by Mertens as a qualitative research design, the author sees as a model for creating a theory, while case study is seen as an approach to doing research. As such case study was further analysed as the research approach to utilize in this study.

Punch (2006, p. 144) defines a case as a phenomenon of some sort occurring in a bounded context which could include a decision or a policy or a process. He states the case study seeks to understand the case in depth, in its natural setting, recognizing its complexity and its context. Punch therefore sees the case study as more a strategy than a method. Yin (1981, p. 59) also sees case study as a research strategy with “the distinguishing characteristic ... that it attempts to examine: (a) a contemporary phenomenon in its real-life context, especially when (b) the boundaries between phenomenon and context are not clearly evident.”



Experiments, Yin states, differ from this approach in that they deliberately separate a phenomenon from its context. Voucher funding of higher education could be considered a contemporary phenomenon in that this form of market-based funding has been considered by a number of countries but there are few examples of actual implementation. As such, the study of voucher funding of higher education within the context of the UAE, the conditions and circumstances unique to the UAE and how these would impact the implementation of voucher funding, was seen to fit the definition of a case study as outlined by both Punch and Yin.

Punch (2006, p. 145) further elaborates on four characteristics of a case study. Applying these characteristics to this research project yields the following:

**1. It is a bounded system.**

The research project was limited to higher education institutions within the UAE. The total timeframe for the project covers the period from 1971 onward (the formation of the UAE) for discussion on the historical aspects of funding higher education within the UAE, to present day, for discussion on the implications of voucher funding for higher education within the UAE.

**2. It is a case of something – the unit of analysis must be determined.**

The unit of analysis was the federal government funded higher education system within the UAE, which funds the University of the UAE, The Higher Colleges of Technology, and Zayed University. In addition to these higher education institutions private institutions as well as those institutions funded by the local emirates were also considered as the intent of the voucher funding system is to enable student choice of all higher education institutions within the UAE.

**3. There is an explicit attempt to preserve the wholeness, unity and integrity of the case.**

Since not everything can be studied, even about one case, specific focus is required. This was guided by the main research question and the associated themes and sub-questions.

**4. Multiple sources of data and multiple data collection methods are likely to be used, typically in a naturalistic setting.**

Archival records, academic journals, policy documents and interviews were the primary sources of data for this project. Interviews were conducted in a naturalistic setting.

Case studies have a more ambiguous standing in social science with a standard criticism that findings derived from a case study cannot be generalized (Punch 2006 , Bryman 2004). Punch (2006) however contends there are two main ways a case study can produce generalizable results, both of which depend on the purpose of the case study and in the way its data are analysed. One way is by conceptualizing, the other way is by developing propositions; the intended outcome being that the findings of each approach are potentially applicable to other cases. To conceptualize, as Punch (2006) explains, the researcher develops new concepts to explain some aspect of what has been studied, the focus being on “conceptualizing” rather than on describing. In developing propositions the researcher puts forward one or more propositions which link concepts within the case. An assessment is then made as to whether these are applicable or transferable to other situations. This is basically the opposite of traditional quantitative research where one begins with propositions which are the inputs into research. In this approach the propositions become the outputs of the research.

Punch (2006, p. 147) further contends that properly conducted case studies, especially in situations where knowledge is shallow, can make valuable contributions in three main ways:

- 1. From what one can learn from the study of a particular case, in its own right.**

The UAE is a relatively young country, having been established in 1971. There has been limited research on the UAE and the financing of higher education. A case study would encompass an account of the history of funding higher education within the UAE and its rationale for considering the implementation of a voucher scheme. (Figure 1 illustrates the funding schemes implemented and considered during the course of the UAE's relatively short history). Such an account would capture the uniqueness of the UAE in terms of its culture, resources and its significant economic growth within a short time frame.

**2. An in-depth case study can provide understanding of the important aspects of a new research area.**

The implementation of vouchers for funding higher education is a relatively new research area. There has been very little empirical testing of ideas (Jongbloed, Koelman 2000) for voucher funding and these have related primarily to the financing of primary and secondary education.

**3. A case study can make an important contribution in combination with other research approaches.**

Semi-structured interviews, for example, could be utilized for data collection with the case study “fleshing out” the results in a meaningful and understandable way.

From the above analysis it was concluded a case study approach would provide for the examination of the relatively new research area of voucher funding of higher education within the real-life context of the UAE. The case study was also looked upon to develop generalizations that may be applicable to others considering implementing vouchers for funding higher education as well as to provide propositions that could form the inputs into further research.

## **4.5. Data Collection**

Creswell (2003:185) states “The idea behind qualitative research is to purposely select participants or sites (or documents or visual material) that will be best help the researcher understand the problem and research question”. Creswell goes on to state unlike quantitative research, qualitative research does not necessarily involve random sampling or a large number of participants and sites. The participants and sites chosen however might well be discussed according to the following four aspects identified by Miles and Huberman (1994, p.30): “the setting (where the research takes place, the actors (who will be observed or interviewed) the events (what the actors will be observed or interviewed doing), and the process (the evolving nature of events undertaken by the actors within the setting)”. The setting and the actors selected for this project are discussed in detail in the sections that follow.

In terms of types of data to be collected Yin (2004) identifies six primary sources of evidence for case studies: documents, archival records, interviews, direct observations, participant-observation and physical artefacts. He recommends that multiple sources of evidence be used as a single source raises questions of accuracy and trustworthiness. Moreover generally applicable results are hard to derive from a single source of data. For this research project documents, archival records and interviews were the primary sources of data. Policy documents from government authorities such as the Ministry of Higher Education, the Abu Dhabi Education Council and the Dubai Knowledge and Human Development Authority were reviewed for insights as to the role of government and that of the market in the provision of higher education against the criteria of effectiveness, efficiency, economy and accountability. Publications in journals of higher education (as identified in the Literature Review section) as well as regional and national newspapers were reviewed to present different perspectives on a voucher scheme of funding from various stakeholders.

Appendix 3 lists the individuals interviewed for this research project. Semi-structured interviews were conducted with representatives from the higher education institutions and from the government departments. Focus group interviews were conducted for the students. An account of the rationale for selection of the interview types chosen, along with the description of the interview processes, is provided later following a summary of the actors interviewed from the higher education institution and government sector categories.

For the higher education institutions all three federally funded institutions, the Higher Colleges of Technology, United Arab Emirates University, and Zayed University were chosen as the implementation of a voucher funding scheme would directly apply to these institutions. The Higher Colleges of Technology (HCT), founded in 1988 by federal decree, is the largest higher educational institution in the UAE. Over 19,000 students attend 17 modern men's and women's campuses in Abu Dhabi, Al Ain, Dubai, Ras Al Khaimah, Sharjah, Fujairah and Madinat Zayed/Ruwais. HCT offers English-taught programmes in Applied Communications, Business, Engineering, Information Technology (IT), Health Sciences and Education at various levels. Programmes are designed in consultation with business and industry leaders to align students' skills with job requirements (HCT 2013).

The United Arab Emirates University (UAEU) was established in 1976 as the first national university in the UAE. It has 12,000 students, primarily based in Al Ain, and offers bachelor degrees, postgraduate programmes, and doctoral programmes through the Colleges of Humanities and Social Sciences, Science, Education, Business and Economics, Law, Food and Agriculture, Engineering, Medicine and Health Sciences, and Information Technology (UAEU 2013).

Zayed University was founded for UAE National women in 1998, with campuses in Dubai and Abu Dhabi. It currently has more than 7,121 male and female students and offers bachelor degrees and master programmes through the Colleges of Arts and Sciences, Business, Communication and Media Sciences, Education, and Technological Innovation (ZU 2013).

For the private institutions three institutions were chosen based on programme offerings that were somewhat comparable to those offered by the three federally funded institutions; the three private institutions being Abu Dhabi University, American University of Sharjah, and British University in Dubai.

Abu Dhabi University was founded in 2000 and is organized into three academic colleges: Arts and Sciences, Business Administration and Engineering and Computer Sciences. The University provides undergraduate and postgraduate degree programmes, as well as a Doctor of Business Administration programme, and currently enrolls over 4300 students at its Abu Dhabi and Al Ain campuses (ADU 2013).

The American University of Sharjah was established in 1997 and is based upon American institutions of higher education. The University, located in the emirate of Sharjah, next to Dubai, currently enrolls over 5500 students. It offers 25 majors and 52 minors at the undergraduate level, and 14 master's degrees programmes through the academic colleges of Architecture, Art and Design, Arts and Sciences, Engineering and Business and Management (ADU 2013).

The British University in Dubai (BUIID) was established in 2004 and is the Middle East region's first, research based, postgraduate university. It currently enrolls over

470 students at its campus in Dubai. The University offers master's degree programmes through the faculties of Education, Information Technology and Engineering, and Business and has established partnerships with the University of Edinburgh, the University of Manchester, the University of Birmingham, Cardiff University and the King's College London (BUIID 2013).

The choice of individuals to interview was guided primarily by their knowledge, namely process knowledge and context knowledge (Meuser and Nagel, 2009). Process knowledge in this case referring to the understanding of funding systems within higher education, their attributes and the mechanics of how input and output factors determine funding levels. Context knowledge here referring to the understanding of the roles of the various stakeholders involved in delivering higher education, from government agencies responsible for planning, funding, data collection and quality assurance, to the higher education institutions, both public and private, responsible for the delivery of higher education, and to the recipients of higher education, students directly and society in general indirectly. In choosing the individuals to interview an attempt was made to select those individuals that could be considered to possess both the process knowledge and context knowledge described, and who would be considered to be experts in their areas, utilizing the definition of expert and expert knowledge as summarized by Bogner and Menz (2005, p. 46): "Experts have technical process oriented and interpretive knowledge referring to their specific professional sphere of activity. Thus expert knowledge does not only consist of systematized and reflexively accessible specialized knowledge, but it has the character of practical knowledge in big parts. Different and even disparate precepts for activities and individual rules of decision, collective orientations and social interpretive patterns are part of it. The experts' knowledge and orientations for practices, relevancies, etc. have also – and this is decisive- a chance to become hegemonic in a specific organizational or functional context. This means, experts have the opportunity to assert their orientations at least partly. By becoming practically relevant, the experts' knowledge structures the practical conditions of other actors in their professional field in a substantial way."

The individuals interviewed from the universities were the senior finance, budget or planning officers for their institutions. As such they were considered to be the most knowledgeable about the finances and administrative operations of their universities

and therefore the experts to interview regarding the implications voucher funding could have in those areas.

The actors that were interviewed within the government sector were the Ministry of Finance, the funding authority for the three federal higher education institutions; The Ministry of Higher Education and Scientific Research, the ministry responsible for accrediting all higher education institutions within the UAE, and the body developing a central data collection system for all higher education institutions; The Ministry of Presidential Affairs, the ministry that commissioned the study on the funding schemes for higher education institutions within the UAE, including voucher funding; the Abu Dhabi Education Council, the body responsible for coordinating programme offerings and developing education and educational institutions within the Emirate of Abu Dhabi; and the Dubai Knowledge and Human Development Authority, the body responsible for the growth, direction and quality of private education and learning in Dubai. The other emirates within the UAE have not established education councils and rely on the federal ministries of Education and Higher Education and Scientific Research for their educational programme offerings. Each of the actors within the government category will be described in turn in the following section.

The Ministry of Finance is responsible for the efficient and effective management of public resources at the federal level with a focus on sustainable economic growth (MOF 2013). The Ministry provides the funding for the three federal higher education institutions (Higher Colleges of Technology, United Arab Emirates University and Zayed University) and would be the funding source for all higher education institutions within the UAE should a federal voucher funding scheme be implemented. The individuals interviewed from the Ministry of Finance were the Head of the Budget Department and the Budget Officer as they were seen to have an in-depth understanding of the funding implications for the federal government of a voucher funding scheme for higher education.

The Ministry of Higher Education and Scientific Research was established in 1992 to oversee higher education and scientific research policies in the UAE, as stated on its website (MOHESR 2014): “The Ministry is responsible for the general planning of higher education and scientific research in the UAE; licensing private institutions of higher

education, accrediting their programmes and overseeing them to ensure their quality standards within the context of the master plan of higher education; preparing draft laws for the establishment of federal governmental institutions of higher education and scientific research and; achieving coordination and integration between federal institutions of higher education and scientific research in terms of budgets, fields of specialization and academic degrees awarded by each of them. The Ministry is also responsible for coordinating students' admission policies and the criteria for their placement in the various fields of specialization in the UAE higher education institutions in response to the needs of the community; accrediting foreign bodies and institutions of higher education and equalizing their certificates; laying down the general policy of scholarships and academic aid, and following-up their affairs inside and outside the UAE, taking into account the needs of the community and the specializations provided by the higher education institutions in the UAE and; developing scientific research institutions, transferring technologies in the context of developmental requirements of the community, and coordinating between higher education and scientific research bodies and institutions on the one hand, and public education on the other".

The individuals interviewed from the Ministry of Higher Education and Scientific Research were the Commissioner for Development, Commission for Academic Accreditation and two representatives from the Higher Education Coordinating Council: the former managing director and the associate managing director. The Commissioner for Development, Commission for Academic Accreditation was interviewed for his insights into the quality assurance requirements of the Ministry and the possible implications these may have on a voucher funding scheme. The Commissioner was also interviewed regarding the data collection unit of the Ministry and the extent to which information was collected on the various higher education institutions within the UAE and how this data unit could support a voucher funding scheme.

The former managing director of the Higher Education Coordinating Council was no longer in the UAE and had returned to his native USA. The interview questions were emailed to him and he responded back via email. The associate managing director was interviewed in person. These two individuals were interviewed as they were responsible for coordinating the proposed per student funding scheme between the federal Ministry of Finance and the three federally funded higher education



institutions and would most likely be involved in the implementation of a voucher funding scheme if adopted.

The Ministry of Presidential Affairs was established in November 2004 and combined both the Office of His Royal Highness the President and the Presidential Court (MOPA 2013) with the stated “mission to provide support and consultation to the decision-maker through the development of excellent, high-quality and credible capability to enhance the central role of the Ministry in developing national policies and community services.” The Ministry of Presidential Affairs commissioned a study in late 2006 to recommend how the federal universities in the UAE should be funded in the future. The two primary government officials from the Ministry that were coordinating the study were contacted for interview as their responses would have been highly relevant to this research project. Unfortunately these government officials declined to be interviewed. However, the consultants engaged to undertake this study on behalf of the Ministry were interviewed and provided an insight into potential funding schemes for higher education within the UAE including voucher funding.

The Abu Dhabi Education Council (ADEC) was created in 2005 by the government of Abu Dhabi with the aim to improve education, and support educational institutions and staff to achieve the objectives of national development in accordance with the highest international standards and with the ultimate goal of transforming Abu Dhabi into a diversified, innovation-based, knowledge-producing society (ADEC 2013). The Division Manager, Global Partnerships, and the Section Manager for Planning and Performance Management, Higher Education, were identified by the Council as the appropriate individuals to interview as to the implications of a voucher funding scheme for higher education institutions within the emirate of Abu Dhabi.

The Dubai Knowledge and Human Development Authority (KHDA) is the regulatory authority responsible for the growth, direction and quality of private education and learning delivered through the schools, universities, training institutes and other human resource sectors within the emirate of Dubai (KHDA 2013). The Executive Director, Higher Education was identified by the Authority as the appropriate

individual to interview as to the implications of a voucher funding scheme for higher education institutions within the emirate of Dubai.

Punch (2006, p. 168) lists the interview as one of the main data collection tools in qualitative research. The interview can be conducted with various degrees of structure, ranging from structured interviews to semi-structured and focus group interviews to unstructured interviews. The structured interview (Bryman 2004, p. 110) calls for all interviewees to be given exactly the same context of questioning so that all replies can be aggregated. Survey research would be an example where this type of interview would be used. With semi-structured interviews “the interviewer usually has some latitude to ask further questions in response to what are seen as significant replies” (Bryman 2004, p. 113). Interviews here consist of open-ended questions and would be conducted in face to face mode and would most likely be recorded. Notes would be made during interviews to record non-verbal information and to provide contextual understanding. The focus group method emphasizes a fairly tightly defined topic and entails several participants who have been selected because they “are known to have been involved in a particular situation” (Bryman 2004, p. 346 citing Merton *et al.* 1956, p. 3). With the unstructured interview the approach is usually informal with the interviewer having a list of topics or issues to cover and the phrasing and sequencing of questions varying from one interview to the next (Bryman 2004, p. 113).

For this research project the semi-structured interview approach was first considered for the actors within the higher education institution category and within the government sector category. This method was considered as it would provide some structure on questions posed to the interviewees to ensure the voucher funding themes identified for these particular actor groups were covered, but to also allow sufficient leeway for the interviewees to provide a more detailed response that may not have been provided through a very structured interview approach. For example, the higher education institution administrators would all be asked questions on the theme of the additional administrative requirements and costs a voucher funding scheme may entail. The questions asked would ensure that this theme was covered by each higher education administrator and the flexibility of the semi-structured interview would allow for follow up questions and a change in the order of questions asked to provide for a greater in-depth discussion of the questions and arguably fuller and richer responses.



The interview approach therefore utilized when interviewing the actors within the higher education institution and government categories was a combination of the semi-structured interview together the adaptation of Pawson and Tilley's 'realist interview' structure, used at the start of the interview process.

Once initial contact had been made with the actors from the higher education institution and government categories an email was sent a minimum of one week in advance confirming the interview date, time and location. Also included in the email were the interview questions and a two page background information summary on the research project including a definition of voucher funding and Figure 1, the progression of funding schemes in the UAE. The information summary also stated that the interview would be face to face, would last approximately forty-five minutes to one hour and that an audio recording of the interview along with note taking would take place.

In each case the interview was conducted at the office of the interviewee. The meeting began with some informal rapport and an acknowledgement of gratitude to the interviewee for agreeing to be interviewed. During this time the set up and brief explanation of the *Livescribe Recording Pen*, which provides both an audio recording and a digital recording of notes, took place. Following this an overview of the higher education funding progression within the UAE leading to the possible implementation of a voucher scheme was provided, using Figure 1 as a reference. With this background and explanation of voucher funding as a funding scheme for higher education the semi-structured interview began based on the questions and themes identified for the particular actor group as listed in Appendix 2.

For the students, focus group interviews were selected to enable a relatively unstructured way to question a group of participants with similar experience (being students) about a fairly tightly defined topic, that being voucher funding for higher education institutions. Three focus groups of six participants each were selected which consisted of a mixture of first and fourth year undergraduate students, with approximate equal representation of both male and female students. First year students were selected for their more recent decision making experience in attending their chosen university while fourth year students were selected as they

were now completing their undergraduate degree and could reflect back on their initial decision to enrol in their respective programme and compare this to the results they actually achieved. Having both first and fourth year students in the focus groups allowed these students to address the research questions poised to them within the context of their particular experience. The three student focus groups were conducted with students from Abu Dhabi University, Al Hosn University, and Khalifa University of Science, Technology and Research. Khalifa University is funded by the Abu Dhabi government and its student admission criteria are seen as more selective than those of Abu Dhabi University and Al Hosn University, which are both private universities within Abu Dhabi emirate. Having the student focus groups from these three universities provided a broad spectrum of students from private and government funded universities.

To arrange the student focus group interviews the Student Affairs Department of each university was contacted by email, with telephone follow up as required, to request a meeting of between forty-five minutes to an hour for a group of six students, with representation as described above. A list of 10 questions for the students (contained in Appendix 2) along with a definition of voucher funding was included in the email and was requested to be provided to the students ahead of the focus group interview. The students were also advised that an audio recording and note taking would be done to record the responses. Initially a video recording of the focus group interviews was considered to fully capture the participation of the group however this was changed to the audio recording (using the *Livescribe Recording Pen*) given the cultural sensitivities within the UAE amongst some women of having pictures or video taken of them.

The focus group interviews were held in smaller meeting rooms within the respective universities to allow for a more informal and unstructured gathering and to facilitate greater participation amongst the students and to also ensure proper audio recording. The focus group interviews began with the following definition of voucher funding as applied to higher education institutions:

**A 'promissory note' given to students to 'buy' the educational services of the University of their choice. The university upon receiving the voucher from the student would present it to the government in exchange for its monetary value. Universities would therefore receive their funding indirectly from the government via the vouchers rather than directly.**

Following this the 10 questions as listed in Appendix 2 were posed to the students and the responses recorded.

#### **4.6. Data Analysis**

Punch (2006) states that while there is no single right way to do qualitative data analysis – no single methodological framework - the methods used need to be systematic, disciplined, transparent and described. The method of analysis needs to show how the conclusions to a research project are linked to the data. Creswell (2003, p. 190) describes data analysis and interpretation as making sense out of text and image data and involves the preparation of data for analysis, conducting different analyses to obtain a better understanding of the data and finally making an interpretation of the larger meaning of the data. Creswell (2003, p. 192) advocates blending generic steps with the specific research design steps; the generic steps having been summarized as follows:

- **Step 1.** Organize and prepare the data for analysis. This involves transcribing interviews, optically scanning material, typing up field notes or sorting and arranging the data into different types depending on the sources of information.
- **Step 2.** Read through all the data to obtain a general sense of the information and to reflect on its overall meaning.
- **Step 3.** Begin detailed analysis with a coding process. *Coding* is the process of organizing the material into “chunks” before bringing meaning to those “chunks” (Rossman & Rallis, 1998, p. 171)
- **Step 4.** Use the coding process to generate a description of the setting or people as well as categories or themes for analysis.
- **Step 5.** Advance how the description and themes will be represented in the qualitative narrative.
- **Step 6.** Make an interpretation or meaning of the data. “What were the lessons learned?” (Lincoln & Guba, 1985).

Creswell's generic steps were used as a guide for the data analysis for this project and were blended with the case study research design. The resulting approach to the data analysis therefore had some similar steps to those of Creswell, as listed below:

- **Step 1.** Organizing and preparing the data for analysis. A total of 16 interviews, comprised of 35 participants, were conducted and audio recorded amongst the three actor groups, along with email response from the government official that was no longer in the UAE. The interviews were approximately 45 minutes to one hour in length and were recorded with the *Livescribe Pen* and saved as audio files on the computer. Rather than transcribing each recorded interview the interviews were played back and the salient responses, quotations and comments were typed on an Excel spread sheet against each of the questions asked. This exercise entailed replaying the audio recording as required to ensure the correct response or comment was noted against the respective theme and question. The time stamp for each response, taken from the minute and second recording of the audio files, was noted beside each response recorded on the Excel spread sheet for easy reference back to the audio recording as required. In addition to the audio recordings the notes that were taken during the interview, and captured digitally via the *Livescribe Pen*, were reviewed and also noted against the respective theme and question. Approximately two to three hours were required to complete this exercise for each of the 16 interviews conducted.

The responses and comments at times addressed questions outside of those posed to a particular actor group; in this case the response was recorded against the respective theme, sub-theme and question of the other actor groups. For example, university administrators, which had questions posed to them under the “Higher Education Institution” perspective, often made comments that related to the “Alternative Funding Models” sub-theme which was under the “Government Perspective” theme and as such their comments were noted under this theme.

- **Step 2.** Beginning a detailed analysis with a coding process. As previously discussed in the research question section the initial themes and sub-themes were established when the interview questions were being developed, these being:
  - Government perspective
    - Efficiency
    - Equity

- Protecting subjects
- Funding
- Alternative funding models
- Higher education institution perspective
  - Resource requirements
  - Physical facilities and infrastructure
  - Geographical access
  - Organizational culture
- Student perspective
  - Student choice
  - Student awareness and motivation
  - Student life-long learning

As such an initial coding process was established during Step 1, when the responses, comments and quotations from the interviews were noted on an Excel spread sheet against the respective questions and themes for each interviewee. This included the additional sub-themes that were established as a result of the responses that were provided and that did not fit well into the original sub-themes established. In Step 2 the responses recorded on the individual spread sheets for each interviewee were consolidated onto a master spread sheet, through a cut and paste exercise, which listed all noted responses for each interviewee and for all themes, sub-themes and questions, including the additional sub-themes that were established. The total data was captured on 18 pages of A3 paper.

- **Step 3.** Using the coding process to generate categories or themes for analysis

From the master spread sheet developed in Step 2 all the responses were organized by theme, sub-theme and actor group. These responses were reviewed a number of times to obtain a general sense of the data gathered, to reflect on the overall meaning of the data and to determine how best this data could be organized to address the main research question of **“What are the consequences, intended and unintended, of implementing a voucher system for funding higher education within the United Arab Emirates?”**



After considerable review it became apparent to take an approach similar to a gap analysis for establishing the categories for the data themes - these categories being: the proposed state of the voucher methodology of funding and the underlying principles this encompasses, the perceived enablers to facilitate this transition from the current methodology of funding to voucher funding, and the transition process. Applying this approach to the data collected, the corresponding themes were grouped to these categories as shown in Table 5. Through this data analysis process additional themes emerged from those originally identified when the research question and interview questions were established. For example, during the analysis of the responses to the “Efficiency” questions the theme of quality assurance was prominent and as such this theme was added. Numerous responses were made on the difference between a voucher system and a per student funding formula and the need for a governance body. Likewise with the culture of the UAE, its maturity and the transition to voucher process, issues for which a sub-theme had not been established. In each of these cases the additional sub-themes were added to the data analysis themes outlined in Table 5.

**Table 4: Data Analysis Themes**

<b>Proposed Voucher State Attributes</b>	<b>Enablers (Constraints)</b>	<b>Transition</b>
<b>Efficiency and Quality Assurance</b>	<b>Funding</b>	<b>Vouchers vs. Per Student Formula Funding</b>
<b>Equity</b>	<b>Physical facilities and infrastructure</b>	<b>Transition to vouchers</b>
<b>Protecting subjects and government steering</b>	<b>Geographical access</b>	
<b>Student choice, awareness, motivation</b>	<b>Administrative Requirements</b>	
	<b>Governance body</b>	
	<b>Cultural and organizational considerations</b>	

- **Step 4.** Advancing how the themes will be represented in the qualitative narrative. Having grouped the themes according to the categories listed in Table 5 provided a logical approach for the narrative account to convey the findings of the analysis. The three categories of Proposed Voucher State Attributes, Enablers (Constraints) and Transition were established as the main categories with the respective themes under each category to serve as the heading for the narrative for the data analysis. As the empirical data was collected through a series of interviews and focus groups (supplemented by a literature review) numerous quotations have been included in the analysis to provide for a richer and better understanding of the issues reviewed. This narrative is captured in Chapter 5, Assessing the Effects of a Voucher Scheme for the UAE.
- **Step 5.** Making an interpretation or meaning of the data and identifying the “lessons learned”. This is covered in Chapter 6, Conclusion and Recommendations

#### **4.7. Challenges Faced**

While securing interviews with the university administrators and most of the government officials was relatively straight forward, and in most cases the individuals were very accommodating, it was not possible to interview the government officials from the Ministry of Presidential Affairs. As previously stated this Ministry had spear-headed the review of the existing federal funding system for higher education and the implementation of the per student funding scheme. As part of that study the concept of voucher funding for higher education within the UAE was proposed so interviewing the officials that were coordinating the study for the Ministry would have been highly relevant to this research project. While it was not possible to interview these Ministry officials the consultants engaged to undertake this study on behalf of the Ministry agreed to be interviewed and provided valuable insight into potential funding schemes for higher education within the UAE including voucher funding.

Arranging for the student focus group interviews provided some challenges as well. This required locating the correct staff person within the university that would coordinate the logistics of getting together a group of first year and fourth year students, with a mix of male and female students. Before this staff person could proceed they required permission from the senior leadership of the university, usually the Provost, to undertake this exercise. To support this request an outline of the research project and the interview questions were provided to the staff person to review with the senior leadership. For two of the universities a telephone call was made to the senior leadership to provide additional background on the research project and the involvement of the students. Once permission was granted it took some time for the focus group interviews to proceed as students had to be recruited and the interviews had to be scheduled around the students' timetables and exams.

The semi-formal interview style, while providing a richer response and gathering of information, made it more difficult to sort and code responses by question category. As earlier described approximately two to three hours were required for each of the 16 interviews to replay the audio recordings and to transcribe the responses or comments against the respective theme and question. Transcribing the exact quotations within the Data Analysis chapter often required numerous replaying of the audio recordings, especially given the Arab and other dialects of the individuals interviewed.

Finally, in some cases the interview data was insufficient and needed to be validated. Triangulation was utilized as a way of cross-checking the results achieved from the interviews against other sources of data, primarily government policy documents, journals on higher education and other writings as referenced in the literature review. A case in point was the theme of protecting subjects and government steering. Here the findings of the UAE 2021 Vision and the Abu Dhabi Economic Vision 2030 were referenced against the responses from the interviewees to illustrate how the federal government and the Abu Dhabi emirate government view the role of higher education in relationship to economic growth strategies.

## **4.8. Limitations Concerning Validity and Reliability**

### **4.8.1. Limitations of Validity**

Bryman (2004, p. 52) states that one of the standard criticisms of the case study is that findings deriving from it cannot be generalized. To counter this criticism Bryman (2004, p. 52) argues that the aim of case study researchers is to “generate an intensive examination of a single case, in relation which they then engage in a theoretical analysis”. The crucial question therefore centres not on whether the findings of a case study can be generalized to wider universe, but rather on how well the researcher generates theory out of the findings (Bryman, 2004, p. 52). In undertaking this “intensive examination of a single case” Silverman (2005, p. 211) points out qualitative researchers need to overcome the special temptation of anecdotalism, that is, ensuring that their findings are based on all their data and not on a few well-chosen examples.

This study attempted to ensure that all data collected from the specified primary actors was analysed and considered when developing the findings to guard against anecdotalism. Some sixteen individual interviews were conducted with higher education institutions and government entities and three focus group sessions with students were completed, for a total participant list of 36, in an attempt to have the data collection representative of all actors impacted by the voucher funding scheme. Nonetheless there is still the risk that the exclusion of some actors may have resulted in data not being collected that could have altered the theory generated, the unavailability of government officials of the Ministry of Presidential Affairs for interview as earlier noted a case in point. As these officials were instrumental in having a review conducted of the funding schemes for higher education institutions within the U.A.E., including the implementation of a voucher funding scheme, their insights would have been valuable as to the objectives of the government and what they saw as possible implications of such funding schemes. While these government officials declined to be interviewed the consultants engaged to undertake this study of behalf of the Ministry were interviewed, and through this it is believed a fair interpretation of the Ministry of Presidential Affairs' objectives and insights were obtained.

The implementation of vouchers as a scheme of funding higher education, as previously discussed, has few examples. While the findings derived from this case study may likely have applications to other countries, the findings in large part apply to the unique characteristics of the U.A.E. and cannot be generalized to a wider universe.

Trustworthiness is another primary criterion for assessing a qualitative study. Bryman (2004, p. 273) identifies *credibility*, which parallels internal validity, and *transferability*, which parallels external validity as primary criteria categorized as trustworthiness. Credibility is stated as the feasibility of others reaching the same conclusion as that of the researcher. Bryman (2004, p. 275) lists *respondent validation* or *member validation* as well as *triangulation* as two techniques that can be used to substantiate credibility. Triangulation, as illustrated in Section 4.7, involves using more than one method or source of data in the research project as a way of cross-checking the results achieved. In this project the sources of data were interviews and publications, primarily policy documents, journals on higher education and other writings as referenced in the literature review. The interviews, and the corresponding findings, were categorized according to the themes established in the research sub-questions which in turn were derived from the literature review. This puts forward the argument that the research questions were credibly determined and as such others using the same questions could feasibly obtain the same conclusions.

Respondent validation or member validation refers to the researcher submitting his findings to those studied (in this case those interviewed) for confirmation that the researcher has correctly understood their response (Bryman, 2004, p. 275). In this case it was deemed not feasible to review the findings with all those interviewed (although one could argue that the semi-structured interview facilitates confirmation as it allows for follow up and clarification of the responses provided). While the findings were not reviewed with all those interviewed they were reviewed with the consultants engaged by the Ministry of Presidential Affairs. It was deemed that the consultants were acutely familiar with the objectives of the government and what they saw as possible implications of such funding schemes and hence confirmation of the findings from them was viewed as a means of validation.

It is further argued that utilizing an adaptation of the “realist interview” provided additional validation to this study. As earlier discussed this approach has the researcher teaching the conceptual structure which the respondent utilizes to understand the question and to formulate his answer. By applying this process to the progression of funding schemes in the U.A.E. as depicted in Figure 2 it is argued provided the foundation for the respondents to understand the concept of voucher funding for higher education in relation to other funding schemes and provided the context and background for the research sub questions.

#### **4.8.2. Limitations of Reliability**

LeCompte and Goetz (1982, p.31) write about reliability in relation to qualitative research and describe both *external reliability* and *internal reliability*. External reliability they define as the extent to which a study can be reproduced. As this project was based on a case study with data sourced primarily through literature and interviews with individuals representing the three actor groups of higher education institutions, government and students, the argument is made that a comparable study could be replicated. Internal reliability LeCompte and Goetz state occurs when there is more than one observer and all observers agree about what they see and hear. In this study only one observer was present so this measure is not applicable.

Guba and Lincoln (1994) identify *dependability* as a parallel to reliability in quantitative research and argue that researchers should adopt an “auditing” approach to ensure the *trustworthiness* of their research. This would involve keeping complete records of all phases of the research process, from identifying the research question, to the interview notes and transcripts, to the data analysis and conclusions. Guba and Lincoln (1994) state these records would need to be accessible so that peers, acting as auditors, could ascertain how far proper procedures were followed and to the degree to which theoretical inferences could be justified. While this study did not engage this auditing approach (which Bryman 2004 states has not become a popular approach to enhancing the dependability of qualitative research) care was taken to ensure complete records of research project were maintained. Through the use of the *Livescribe Recording Pen* and its

technological capabilities, audio interviews were recorded and backed up on an external hard drive as were the interview notes that were made and recorded digitally via the *Livescribe Pen*. Spread sheet schedules were maintained of the interviews conducted, listing the interviewees, their position titles and the dates, locations and timings of the interviews. It is argued that these records, along with a Gantt chart recording the various phases and timelines of the research project (serving as a diary) provides evidence that sufficient records were maintained to document the various phases of the project.

As a final measure of the reliability of the project the concept of *confirmability* is identified. Bryman (2004, p. 276) defines the concept as showing that the researcher acted in good faith and has not overtly allowed personal values or theoretical inclinations to sway the conduct of the research or its associated findings. As the researcher was a former administrator of one of the publicly funded higher education institutions within the UAE, care needed to be exercised to guard against biases and pre-conceived notions as to the implications of a voucher funding scheme. Likewise it needs to be recognized that information provided through interviews is filtered through the views of the interviewees and many factors can influence responses, one way or another (Bell 1987, p. 73). From the literature review it is noted that the advantages and disadvantages of a voucher funding scheme are based on the different ideological approach to the role of higher education in society. University administrators, for example, operating in similar environments may very well have opposing views on the implications of a voucher funding scheme based on their ideological beliefs. As such it needs to be acknowledged that the findings gathered through the interviews are a reflection of the personal ideology of the interviewee.

#### **4.9. Conclusion**

The implementation of vouchers in higher education is still a relatively new research area, and there has been limited research on funding higher education within the UAE. The case study approach to this research project was undertaken to develop generalizations that may be applicable to others considering implementing vouchers for funding higher education as well as to provide propositions that could form the inputs into further research. Creswell's generic steps were used as a guide for the

data analysis for this project and were blended with the case study research design. Through this process the categories for the data themes were established - these three categories being the proposed voucher state attributes and the underlying principles they encompass; the perceived enablers to facilitate this transition from the current methodology of funding to voucher funding; and the transition process. These categories provided the framework for the data analysis covered in Chapter 5, Assessing the Implications of a Voucher Funding Scheme for the UAE.



## **5. Chapter Five: Assessing the Implications of a Voucher Funding Scheme for the UAE**

The traditional view of higher education saw universities and colleges shielded from the pressures of market and political forces; higher education institutions were seen as public resources and education was viewed as a public good (Massy, 1996). According to Massy (1996) this view has been challenged over the years through a combination of reduced government resources and a corresponding questioning of government's ability to assure quality and efficiency to the satisfaction of public officials and their constituents. The result has been an increasing "privatization" of higher education, with a greater reliance on market forces over public appropriations. As discussed in the literature review chapter proponents of a voucher funding scheme assert that a demand driven, voucher model of funding higher education will spur on greater competition for students amongst higher education institutions. Students would have stronger incentives to participate and with such a system, choice, underpinned by good information and strong quality assurance, should drive both a high quality student experience and institutional diversity. Major concerns raised in the literature review about a totally market and student demand-driven system for funding includes the capacity of the government to fund open ended enrolments and the ability to fund rapid enrolment increases; the impact on institutions and campuses of sudden enrolment shifts; the quality of student entrants if funding is demand-driven and the risk of mismatch between student programme choices and the workforce requirements of the nation. In assessing the implications of a voucher funding scheme for the UAE these issues along with others as identified in Chapter 4, and summarized in Table 5, have been analysed and are presented in the three categories of Proposed Voucher State Attributes, Enablers (Constraints) and Transition. These three main categories together with the respective themes under each category serve as the heading for the narrative for the data analysis and are discussed in detail in the following sections. Salient quotations from the individuals interviewed are included in the following sections and have been referenced according to the actor group category (Government Official, University Public Official, University Private Official, Student Focus Group). Random numbers have been assigned to each individual actor, with the reference maintained by the author, to ensure the privacy of the respondent.

## **5.1. Proposed Voucher State Attributes**

### **5.1.1. Efficiency and Quality Assurance**

Proponents of vouchers, as discussed earlier, propose that greater competition amongst higher education institutions for students will act as incentive for the institutions to improve their quality. The UAE has a large number of higher education institutions. In addition to the three public higher education institutions (Higher Colleges of Technology, United Arab Emirates University, and Zayed University) there are 74 private institutions of higher education recognized by the Ministry of Higher Education and Scientific Research (CAA, 2014). As well there a number of “free zones” within each local emirate that have distinct geographical and administrative areas, which can allow up to 100 per cent foreign ownership, and which target specific commercial activities, in this case private higher education institutions. Given the large number of higher education providers in the UAE, and following the logic of proponents of vouchers, one could argue that this has a positive effect on quality as the large number of higher education institutions would force competition to improve programmes and the employability of graduates. This argument had both supporters and detractors from the individuals interviewed. Suggestions were made that universities would need to compete to be on a list of “quality” universities from which students with vouchers could choose from.

Government Official 1: “You have to have sort of like list of universities according to course, well done analysis for their performance that you can allow students with vouchers to join and in this case all universities will have a direct impact ... all universities will compete to improve their education and to compete to appear on this list with a good performance so in this case yes I think it would be a good idea to introduce them (vouchers)”.

Some respondents argued that with the increased number of foreign private institutions that have established campuses in the UAE an increased number of Emirati students are forgoing free tuition at the federal institutions and paying to attend these private higher education institutions, believing these offer a higher level of quality.

Government Official 7: “It seems to me that the reputation of the federals is slipping a little bit, that as people become more globally conscious and

thinking more about global competitiveness that the federal education institutions really aren't ... they don't have the prestige".

Other respondents stated that the increased attendance by Emirati students at private institutions was for reasons other than quality; that without an accompanying quality assurance programme students may choose to attend institutions with the easiest entrance requirements. Likewise institutions may be incentivised to "dumb down" their standards simply to attract more students and the accompanying funding.

Government Official 5: "There is in general in the Emirates a movement of Emiratis leaving federal institutions where the quote unquote value of the voucher exists and moving to non-federal institutions and they are doing so with no voucher, so if you have a voucher would that accelerate that? I think it would. Would they all go to quality institutions? I think they would not. We see very large numbers of Emirati students going into low entrance institutions, maybe where you can still study in Arabic, where most of the faculty is Arabic speaking, even if it is an English language institution, where the entrance standards are low, 60 per cent for example rather than 70 or 80 at other institutions, low CEPA scores and they are enrolling in large numbers in some of those institutions. So it's just not quality."

Government Official 1: "Some universities, especially the private, they may sacrifice the quality because the culture that we have, for example, the people who have money don't always seek good education, they may seek easy education. So if you are able to consider the quality of the institution as a condition ... (of a voucher)... you can guarantee to an extent that universities will not sacrifice their quality to please the students."

University Public Official 2: "The country is at a stage where they have to scale up their standards, they have to challenge the students more and more, and we already see with the formula funding ... a lot of pressure from budgeting, finance and administrative people ... to raise the number of students and to try to dumb down standards. This would be an unfortunate development, I think, in the country at this stage".

Government Official 8: “There is no automatic reason for quality to be maintained. Government mandates will be necessary to ensure quality”

From the above comments it would seem that market forces by themselves cannot assure the quality of higher education. Within the UAE the focus is primarily on licensure, compliance and accreditation, and not necessarily on quality assurance and improvement. At the federal level the Ministry of Higher Education and Scientific Research (MOHESR) is responsible for the licensure and accreditation of the three federal institutions (MOHESR, 2013). In addition Zayed University has been accredited by the Middle States Commission on Higher Education, a US regional accrediting body, while the other two federal institutions are seeking international accreditation.

For the private higher education institutions of the UAE, the Commission for Academic Accreditation (CAA) of the Ministry of Higher Education and Scientific Research conducts a programme of licensure of institutions of higher education and accreditation of each of their academic programmes. (MOHESR,CAA 2013).

Foreign institutions operating within free zones are not subject to the licensing requirements of the CAA however they are subject to the quality assurance requirements of the individual emirates. The emirate of Dubai, for example, through its Knowledge and Development Authority (KHDA), encourages the provision of additional high quality foreign education providers to supplement local supply and speed up human resource development in the UAE; however these foreign institutions need to comply with the quality standards the KHDA has established through its University Quality Assurance International Board (UQAIB). This Board consists of international quality assurance experts who assist with the oversight of the quality of higher education offered by foreign higher education providers operating in the Dubai free zones (KHDA, 2013). Foreign private operators are also expected to comply with the same quality assurance requirements of their home campuses, which in the case of Dubai emirate, is monitored by the UQAIB.

Having these foreign institutions that are operating within free zones come under CAA accreditation is a likely goal of the federal government according to following government official:

Government Official 4: “These institutions in the free zones are part of the higher education system in this country. Why wouldn’t the Minister of Higher Education want to know all the higher education institutions in his country regardless of what deal they are operating under? The Ministry is proud, and rightly so, of the CAA and believes it’s a good system and would like all institutions to go through it”.

University Private Official 2: “Given that vouchers support a market driven approach to funding it is essential that a quality assurance regime be in place. If QA is implemented then this may be an advantage of a voucher system in that it would enforce QA to be in place for all institutions which is not the case with the institutions within the free zone areas.”

In an effort to bridge this accreditation gap between the free zone higher education institutions and the public and private institutions accredited by the CAA, the federal government established in 2011 the Center for Information & Statistics of Higher Education (CHEDS) within the Ministry of Higher Education and Scientific Research. Referring to its decree a primary role of CHEDS is the collection and analysis of all information and statistics of each higher education institution in the UAE through which the performance of each HEI is compared with performance indicators for quality and excellence, with such results produced and published to inform decision makers and the public of the performance level of each HEI, and to enable them to make comparisons among similar educational programmes offered by these institutions, and also general comparison among institutions (MOHESR, CHEDS, 2013). At this time however participation by the free zone HEI's with CHEDS is still voluntary. These HEI's may consider to have their programmes accredited by the CAA in order to attract more national students as graduates cannot work in federal government institutions with unaccredited degrees. This would be attractive in recruiting national students as this is where a large number of nationals prefer to

work due to higher salaries and more favourable working conditions as compared to the private sector (Wilkins, 2010).

So while the CAA provides this licensing and accreditation function, it is questionable whether this is the type of quality assurance function required in a voucher funding scheme. Given the need to improve quality and efficiency in response to the market forces of a voucher funding scheme it may be more appropriate to have a system more focused on institution-level quality assurance and improvement processes and outcomes measures than having an approach based on summative judgements about delivered quality and compliance. In effect the distinction is made between “Quality Assessment”, the mechanism or procedures used to determine the extent to which quality exists, and “Quality Assurance”, the mechanism or procedures used to assure or measure the level or existence of quality. Institutions choosing Quality Assurance evaluate the mechanisms and procedures *used by the institutions* to assure and measure, and also to improve, the level of quality – a process that has come to be called “academic audit.” (Massy, 2006, p. 1)

“Academic audits” that have been implemented in a number of countries, including Australia, New Zealand, England, the U.S. states of Missouri and Tennessee and the Canadian province of Ontario. These academic audits focus on process and improvement rather than summative statements about quality standards achieved. A select manageable number of important issues are set out for audit as opposed to the larger number of issues and requirements called for in an accreditation process. The academic audits are also characterized by a high degree of transparency and a self-study approach that further supports the focus on improvement rather than compliance. Using the Canadian province of Ontario as an example it has established the Ontario College Quality Assurance Service (OCQAS) that has developed a set of six quality criteria/characteristics which are seen as quality exemplars for higher education institutions (OCQAS, 2014). Every public college in Ontario, on a five year cyclical basis, undertakes a self-study rating themselves against these six criteria. This is followed by an on-site audit by an external panel of trained auditors to ensure the findings of the colleges are valid and supported by reliable evidence. Final reports are released to the colleges and posted on the OCQAS website, available to the public. Colleges also provide a follow-up report to

the audit findings within 18 months and this report is also posted on the OCQAS website.

Within the UAE a determination would need to be made as to whether the role of the CAA should be expanded to include academic audits, whether this could be incorporated under the mandate of CHEDS or whether a separate unit should be established for this function.

Leaving aside the discussion about the relationship between quality and efficiency, one also needs to look at historical development of the UAE and how key decisions that were made in the 1970s shaped the character and structure of higher education in the country and how this impacted efficiency of programme delivery. Four original pillars of policy for the UAE from the 1970's are identified: "the federal government would build and operate its own universities, separated by gender; a qualified, mostly international faculty would be employed; all instruction would be in English; and education was to be for all qualified Emiratis, and would include women" (Fox, 2008). These key decisions contribute to higher costs for the federal higher education institutions due to the cost of importing faculty and the associated cost of providing housing and transportation home each year, as well as the duplicate costs associated with separating campuses by gender, namely capital costs and the number of faculty and staff. The effect these policy decisions have on efficiencies, as compared with private higher education institutions not bound by these policies, needs to be considered when evaluating arguments that voucher funding provides incentives for efficiencies.

Finally a number of respondents stated that voucher funding would likely require a more mature higher education system. Many of the universities within the UAE are new and starting up and economy of scale efficiencies have not yet been realized. Further discussion on this issue will take place within Section 5.3.1. Transition to Vouchers.

### 5.1.2. Equity

In the literature review the main emphasis of Jencks' model was referenced as equal access to education, with the aim to support the prevention of social and economic segregation, and to ensure that children should not be denied access to education as a result of their parents' inability to pay. Within the UAE, Article 17 of the federal constitution states that education shall be a fundamental factor for the progress of society and free of charge at all stages, within the Union (Worldstatesman, 2003). As such one could argue that equal access, or equity, is guaranteed for all Emiratis, at least at the public institutions. However, as discussed in the previous section, many Emiratis are looking to enrol at private institutions where they are required to pay tuition. Having a voucher system that could be utilized at both public and private institutions would provide the choice that it appears Emiratis want.

Government Official 5: "...I think the trends I see in this country is that Emiratis want options... One thing vouchers should do is to increase choice, and choice should include all public and private. They can already go to the public for free but if they had a voucher they could still go to the public for free or they could go to the private".

While Emirati students are provided with free education to one of the three federal institutions, and while a voucher funding scheme could provide additional access to private institutions, the skill level of the student would still be a determining factor as to which institutions the student would be eligible to enrol in. Within the Ministry of Higher Education and Scientific Research (MOHESR) is the National Admissions and Placement Office (NAPO) which is responsible for assessing the skill level of Emirati high school leavers and processing their applications for admission to the three federal institutions (United Arab Emirates University, the Higher Colleges of Technology, Zayed University), as well as the Abu Dhabi Centre for Technical and Vocational Education and Training (ACTVET), described later, and for study abroad under the sponsorship of the MOHESR (MOHESR 2013). The admission process includes the administration of the Common Educational Proficiency Assessment (CEPA) which consists of two tests, an English test and a Mathematics test. The results of these tests and the eligibility requirements set out by the institutions



determine which institutions are available to the students and which students are eligible to get a scholarship to study abroad. Furthermore students with high CEPA scores are eligible to enter academic programmes directly while lower scoring students are required to enrol in foundation programmes at the institutions (MOHESR 2013).

Each of the three federally funded higher education institutions within the UAE offer these foundation, or bridging programmes, in English, mathematics and related subjects to bring the skill level of school leaver students up to university entry standards. At the Higher Colleges of Technology for example, General Education (foundation and work readiness) programme enrolments for the 2011-12 academic year totalled 7,360 out of a total enrolment of 19,515, or approximately 38 per cent (HCT 2013). Within the emirate of Abu Dhabi the Abu Dhabi Education Council (ADEC) reported that at the start of the 2012-13 academic year only 12 per cent of school leavers were able to go straight on to university degree courses, with the rest needing remedial lessons in English and other subjects first (ADEC 2013). In response to this deficiency ADEC implemented a New School Model in 2010, introduced in stages – first to kindergarten classes, then to each successive year, with grades 10 to 12 to be fully migrated by the academic year 2015-16 (ADEC 2013). The reforms target a shift from an emphasis on content (“rote learning”) to one of critical thinking and an encouragement to continue learning throughout life. More specifically the reforms called for in the New School Model are to align with the following 10 year targets set by ADEC (ADEC 2013):

- Abu Dhabi public and private school students perform above international average
- All students at school age, Nationals and Non-Nationals, have access to quality schools
- Kindergarten attendance at best-practice levels
- Enhance students’ knowledge and pride of own history and culture
- Ensure that 100 per cent of parents have access to their children’s performance data

In addition to establishing the New School Model the Abu Dhabi government recognized the need for vocational education and training to complement its higher

education institutions and to offer pragmatic opportunities for its students. In 2010 the Abu Dhabi Centre for Technical and Vocational Education and Training (ACTVET) was created by the Abu Dhabi Executive Council to preside over technical and vocational training in the emirate with the goal of increasing the number of skilled young Emiratis employed in rewarding positions, with opportunities for life-long learning and personal development (ACTVET 2013).

University Public Official 2: “The real problem is that the vast majority of students are not prepared for higher education... I think we have to be very careful about what the voucher system will do for that group. It’s not the highly motivated students, highly accomplished students (to be concerned about). I think they pretty much have something like a voucher system, they can go overseas, depending on gender and those cultural issues and so on, or they can go to local schools, even so called private schools like American University of Sharjah, they provide significant scholarships to local students, and NYU and Sorbonne. That is there for the motivated students but I think we really have to worry at this stage for the next five to ten years, the K-12 is still struggling, what to do with the majority of students with a voucher system”.

Equal access to higher education in the UAE may therefore be more of a matter of not all students being adequately prepared, or suited for, university as opposed to not having access to higher education institutions for financial reasons. For those high school leaver students that are high achievers open access is already available to them – they can attend any one of the three federal institutions or they can receive scholarships to go to overseas universities or scholarships to attend local universities like New York University Abu Dhabi or Paris Sorbonne Abu Dhabi. The 2011 year statistics from the Ministry of Higher Education and Scientific Research, Scholarship Department show that a total of 312 scholarships were awarded to UAE National students to attend higher institutions in 20 different countries; the scholarships broken down by degree programmes as 18 for Doctorates, 43 for Masters and 251 for Bachelors (MOHESR 2013).

Access to private schools could also be seen as an overarching equity issue, illustrating the emirate of Dubai as an example. The Dubai Knowledge and Human Development Authority (KHDA) was established in 2006 with the responsibility for the growth, direction and quality of private education and learning in Dubai. KHDA's role is to ensure that Dubai's private schools are established and operate according to the highest quality standards. KHDA's Dubai Schools Inspection Bureau (DSIB) carries out detailed inspections of every private school in Dubai and the Regulations and Compliance Commission (RCC) are responsible for the licensing of schools and their adherence to regulations and guidelines. For primary and secondary education Dubai schools cater to 87 per cent of Dubai's population, with the government school system open only to Emirati students. For Emirati students, 43 per cent attend government schools, with the remainder in the private system. For higher education 42 per cent of Emirati students attend the three federal higher education institutions (Zayed University, and the Dubai Men's and Women's Colleges of the Higher Colleges of Technology system) with the remaining 58 per cent of Emirati students attending one of the 52 higher education institutions that are either branch campuses of international universities or other private universities. (KHDA 2013). Within the emirate of Dubai, given the high rate of Emiratis enrolled in private schools and private higher education institutions, voucher funding could be seen to facilitate the choice of access between private and public higher education institutions for Emirati students.

The issue of whether equal access should apply to expatriate students brought to light the significant increase in the population of the UAE in recent years, primarily from expatriates. In 2006 the population of the UAE was 5,012,384, broken down to 851,164 for Nationals and 4,161,220 for expatriates. The population rose to 8,264,070 in 2010, with the Emirati population rising slightly to 947,997 (12 per cent of total population) and the expatriate population rising to 7,316,073 (88 per cent of total population) (UAE National Bureau of Statistics 2013). This significant increase in the expatriate population raises the issue of whether expatriate students should also be eligible for equal access to education.

Government Official 5: (the population of the UAE) "has doubled in less than eight years and all of that is expats. That's social service, roads,

construction, immense planning, water (requirements) let alone education. So you've got a huge demand for expats that have unmet needs.”

The development of the UAE depends not only on having a well-educated citizenry but also on the presence of well-educated expatriates, many who have made the UAE their home and whose commitment is to the UAE. While governments could see this as an incentive to recruit and retain the required expatriate workers to support the ambitious development plans of the UAE, equal access for expatriate students could be viewed as more of a citizenship issue requiring some form of an income tax regime for expatriate workers to enable this eligibility requirement.

### **5.1.3. Protecting Subjects and Government Steering**

A review of the literature from past years would indicate that the role of higher education institutions in the Arab states was widely viewed as an instrument of social and economic development (Kazem, 1992). Development policies in most Arab states were aimed to provide free access to higher education thereby enabling greater entry to members of previously excluded social groups. As such these policies largely transformed universities into teaching institutions with limited funds made available for research programs (Mazawi, 2005). In addition, guaranteed employment policies exacerbated the misalignment between university training deliverables and labour market needs (Zhiri, 1990). The cumulative effect of these policies as concluded by the authors of the *2003 Arab Human Development Report* (UNDP, 2003) is that universities in the Arab states generally “lack a clear vision [...and...] well-designed policies regulating the educational process” (p. 56). The authors further stated that overcrowding, decline in expenditures and inadequate facilities hamper the quality of instruction and research. Against this backdrop were calls for the restructuring of higher education. In most Arab states the major concern in the restructuring of higher education were the links between higher education and labour market needs (Mazawi, 2005). The “growing gap between quality of graduates and labour market needs” (Morgaby, 2005) raises concerns about the relevance of higher education in the Gulf States where imported workers “build our homes, repair our cars, fix our televisions and run the production lines in our factories” (Sulayti, 2000). This lack of a locally trained workforce was seen to impact the perceived national identity and cultural heritage of Gulf societies and was seen

to exert pressure on institutions to address this gap between higher education and labour market needs.

It now appears the UAE government has taken concrete steps towards addressing this gap. Excerpts from the UAE 2021 Vision and the Abu Dhabi Economic Vision 2030 illustrate how the federal government and the Abu Dhabi emirate government view the role of higher education in relationship to economic growth strategies:

“A diversified and flexible knowledge-based economy will be powered by skilled Emiratis and strengthened by world-class talent to ensure long-term prosperity for the UAE. We want all Emiratis to make a valuable contribution to their nation’s growth by building their knowledge and applying their talent with innovation and drive.

More Emiratis will enter higher education, where they will enrich their minds with the skills that their nation needs to fuel its knowledge economy. Universities will listen closely to the needs of Emiratis and of their future employers, and will balance their teaching to the demands of the workplace.

We want the UAE to transform its economy into a model where growth is driven by knowledge and innovation. Productivity and competitiveness will come to rival the best in the world, as a result of investment in science, technology, research and development throughout the fabric of the UAE economy.” (UAE Vision 2021 cited from <http://www.vision.2021.ae>, Section 3)

“The drive for diversification as well as the challenge of a burgeoning population delivers a greater need for Abu Dhabi to upgrade the quality of its education system and to increase the education attainment rates of Nationals and the overall workforce to move the economy up the value chain. Moreover, a better educated workforce will be a key enabler to address the relatively low productivity rates found in much of the Emirate’s enterprise base”. (cited from Government of Abu Dhabi, Urban Planning Council (UPC) Abu Dhabi Economic Vision 2030, 2008, p.7)

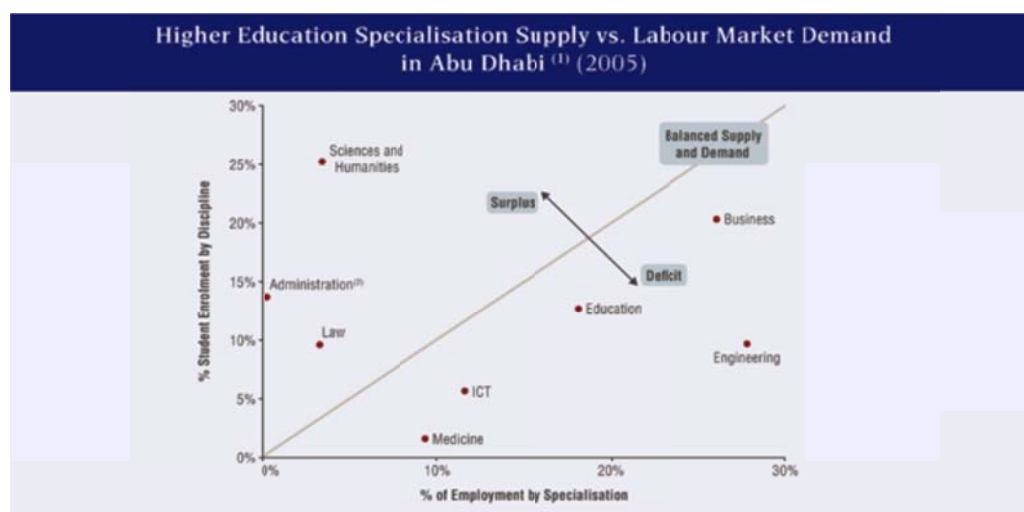
From these excerpts both the federal government and the Abu Dhabi emirate government are looking to a highly skilled work force, comprised of both Emiratis and expatriates, to drive economic growth within Abu Dhabi emirate and the UAE. While this reasoning may be in line with Western assumptions that developed economies with high skilled, high valued economic activity have a competitive advantage, this reasoning may need to be revised. Brown and Lauder (2010, p.253) contend that “we are in the early stages of a ‘gale of creative destruction’ that is transforming the relationship between education, jobs and rewards that has been dominated by a neo-liberal (human capital) model of market competition”. They argue that in today’s global economy competition is based on quality *and* cost. Developing countries such as China and India are able to rapidly incorporate new technologies and business practices while taking advantage of lower labor costs to deliver “quality” at a declining cost. As well, developing countries are no longer content with doing the “body” work (manufacturing) while developed countries do the “head” work (research and design).

This poses a major issue for the UAE as it increases investment in human capital in the belief that it will not only address the issue of unemployment amongst Emiratis, estimated at 15 per cent when Emiratis as a whole make up 12 per cent of the total population (based on 2010 population figures previously listed) (Salama, 2012), but to also generate demand for high quality private sector jobs. The majority of Emiratis are employed in the public sector. For example 94 per cent of administrative jobs in ministries are held by Emiratis (Salama, 2012). Private businesses on the other hand employ some 3.9 million people of which approximately 20,000, or 0.5 per cent, are Emirati according to the 2011 Labor Report (Salama, 2012). This low level of Emirati employment in the private sector has caused Essa Al Mulla, the head of the Emirates National Development Programme (ENDP), a national programme established in 2005 to help UAE nationals find jobs in the private sector, to declare at the 8<sup>th</sup> Emiratisation Congress held in May, 2012 that the Government should “stop recruiting nationals for the public sector for at least three years”. He went on to state that a “serious debate with the Government is needed. I’m calling for a revolution to the education system, because the reality is we don’t have the right caliber yet” (Olsen, 2012). Providing the right caliber of Emiratis will likely require what Brown and Lauder (2010, pp. 254-255) refer to as the development of a “learning state” with the development of

“senior staff who have a deep understanding of complex, inter-related policy issues (relating to the supply, demand and utilization of skills) and who can craft policy interventions that are coordinated across a number of different areas of policy (including education and training, labor market regulation, employment relations, research and innovation, and social welfare).” Brown and Lauder suggest that developing such a “learning state” will likely take some time as the imbalance between the private and public sector employment needs to be addressed, sooner than later, given that training can take a long time while with the global competition for high skilled, low- cost labor, “offshoring takes no time at all”.

A key element in establishing the “learning state” will be implementing the reforms to ensure that graduates have the skills and qualifications to drive economic growth. The Abu Dhabi Economic Vision 2030 has identified that specialized education will be required to meet the projected future growth sectors primarily in the fields of engineering, aerospace, information technology, medicine, applied sciences, and tourism and business (UPC, 2008). As shown in Figure 9 the current supply of students enrolled in these employment areas is at a deficit in relation to employment requirements.

**Figure 9 : Higher Education Specialisation in Abu Dhabi**



(1) A similar exercise was conducted for the UAE and comparable results were reported

(2) Administration includes among others public administration and affairs, translation, general secretariat, etc.

**Source:** Abu Dhabi Census 1995 and 2005; Abu Dhabi Statistical Yearbook 2005; UAE University Annual Report 2005-2006; Abu Dhabi Economic Vision 2030 Team Analysis

**Source: Abu Dhabi Economic Vision 2030**

How voucher funding is implementing could have opposing effects on government steering and protection of subjects. An entirely market-driven system where programme choice is left up entirely to students could result in enrolments in subjects such as engineering, applied sciences and other disciplines identified in the Abu Dhabi Economic Vision 2030 fall below levels required to support its strategic and economic objectives. As well, left simply to market forces programmes of high cultural value but low enrolments could be at risk. Universities, along with other cultural institutions, are seen as a primary depository of a country's history and culture. Using vouchers to target certain programmes or courses, on the other hand, would allow governments to steer students to programmes and courses required to support its strategic and economic objectives and to protect high cultural value but low demand programmes.

Government Official 5: "If a voucher system were to be implemented it would probably be a modified system – for better students; targeted areas."



Vouchers or not there does not appear to be any entity in the federal government that exercises overall governance and oversight of the higher education system although this would fall under the remit of the Ministry of Higher Education and Scientific Research (MOHESR). Federal Law number 4/1992, which established the Ministry, states that the MOHESR's mandate includes (MOHESR, 1994):

- Planning the higher education and research systems in the UAE and defining the required types, sizes, majors and geographic distribution of institutions in light of the overall development needs of the country
- Coordinating and integrating all the budget needs for all Higher Education institutions and research
- Coordinating and integrating academic majors and degrees and programmes offered by all higher education institutions and ensuring their alignment with the overall higher education plan
- Coordinating the admissions policies of the three institutions and the criteria for distributing students between the different academic majors within the three federal institutions.

To date it does not appear that the Ministry has undertaken these planning and coordination roles, leaving the individual universities to develop their policies and strategic plans separately from each other. As stated by the following response the large number of branch campuses that have recently set up in the UAE, and in Dubai particularly, have been largely to support the economic development of the individual emirate rather than the result of a planned and coordinated federal government strategy.

Government Official 5: “The example of Knowledge City being set up next to Media City and Internet City to provide the training and graduates to support these entities. This is a free zone area so the higher education institutions can set up their institutions easily – the facilities are provided – they can have their own boards and governance, can repatriate their profits. Voucher funding would not provide the same type of economic stability to these institutions. You can also look at the examples of Singapore and Hong Kong – higher education institutions were set up primarily to support economic development – first priority rather than to meet the needs of the individual student”.

Government Official 5: “We (Dubai) have the largest number of branch campuses in the world here, 27 give or take, there are 150 in the world. The reason that happened is Dubai made a very conscious plan to develop economic free zones in Dubai. Not only did they make it a free zone the government through (a government owned company) built buildings for colleges, training and universities. Why is this important? It's important because S P Jain, Wollongong, Murdoch, Manipal could come to Dubai and say “I want to open my university but I can't put up the capital infrastructure to do it, and I can't go downtown because the rents are too high but I can come to your park, into a free zone, I can have my own board, I can invest my own money, I can start this programme and I can keep my capital investment down, so I can get into this, without that, I can't get in. That government policy, then, first to create the economic zone, then to build the capital infrastructure to allow them to come in, that's what made this work. That brings economic returns to Dubai. For them to look at a voucher system they would say “I don't see the return. I don't see my capital investment growing. I don't see my places rented out.” ...this policy we (Dubai) have been developing brings returns in terms of diversification, capital and investment, we want to be a hub because of the economic benefit...”

One would argue that for effective government oversight and steering of higher education system a governing body is essential. Further discussion of this issue takes place in Section 5.2.5. Governance Body.

#### **5.1.4. Student Choice, Awareness and Motivation**

As a voucher system is purported to put the purchasing decision into the hands of the student the question is raised as to whether students have sufficient information to make sound choices for higher education and whether they have the capacity to undertake these decisions. Nicholas Barr (1993) argues that students are “better regarded as well informed than ill informed” and such information is generally simple enough for students to understand and evaluate and that students make choices already. Others argue that choices cannot be effectively undertaken without a meaningful understanding of quality. Economist William Massy asserts that “markets cannot discipline price without meaningful information about quality”

(Kluwer, 2004). Roger Brown, in the Higher Education Policy Institute Report (Brown and Scott, 2009, P.4) states that for choices to be effective for students when comparing different subjects, programmes and institutions, all of the following conditions would need to be met:

- “it must be possible to produce valid and reliable information about the relative quality of different subjects, institutions and programmes;
- this information should be available in a timely, accessible and equitable fashion;
- it should be tailored to the wants, needs and circumstances of each individual user;
- it should be interpreted, judged and acted upon by each individual user in a rational manner;
- institutions should be able to react appropriately to those judgements and actions;
- someone would have to pay for it.”

Brown concedes however that it would be very difficult to achieve these conditions in higher education given the difficulty in making valid comparisons between programmes and institutions given the number of variables involved such as institution missions and character, programme content and delivery, resources, and assessment practices. He further contends that information needs to be tailored to the requirements of individual students which adds further difficulty and cost and that even by doing this there is no guarantee that students would necessarily act in a rational manner, and even if they did, it is not clear as to how institutions would react to this. Brown further contends that not having meaningful information about quality can result in “prestige” acting as a substitute for effective information about educational quality for institutions and students alike, “encapsulated in, and reinforced by, institutional league tables and rankings” (Brown and Scott, 2009).

From the interviews conducted with the university administrators, government officials and students a number of these themes were raised, from having meaningful information available and being capable of interpreting it to the reasons behind choosing different institutions and programmes.

University Public Official 1: “I’m just trying to think of a young 18 or 19 year old kid ... you give him a piece of paper that’s worth, I don’t know, fifteen thousand dollars and you say go buy yourself an education – how would he react? I think 18, 19 year old kids need to be more organized and brought to a certain level before they can make a real consumer enlightened decision. When you’re 18, 19 I guess you’re still quite influenced by friends, by parents, so you really haven’t, I guess, the maturity to make important, I would say, decisions.”

University Public Official 2: “Students are not necessarily mature enough to make the right decisions. They make simply look for the easiest way to get a degree – it could be a race to the bottom.”

Student responses on the other hand were quite consistent in that they felt they were able to make informed decisions about which institute they would attend under a voucher system. The choice of programme and the reputation of the institution were common reasons for choosing an institution. Students interviewed from the private institutions also listed employment prospects as a determining factor for choosing an institution given that these students were paying tuition compared with the free tuition offered at the federal and emirate funded institutions.

Student Focus Group 3 Participant: “I would consider the programmes offered and the quality of the university – my parents would be more concerned about the reputation of the university and cost.”

Student Focus Group 1 Participant: “If the voucher is available for all universities then it won’t be a problem, your choice is then on the university and not on the cost.”

Student Focus Group 2 Participant: “Graduates from the private institutions are expecting employment in their given field of study, in either a government or private company, given that they have paid for their education. At (our institution) we have a 90 per cent employment success rate.”

UAE family culture was also an important criterion as many students did not want to leave home, or in the case of some women students were not allowed by their families to leave home, and would look to enrol in their local institutions. The recent doctoral thesis of Sabha Al Shamisi (Al Shamisi 2010) entitled *Factors affecting secondary school graduates' choice regarding higher education: The case of United Arab Emirates* highlighted that family influences, particularly patriarchal preferences, significantly influence the choices available to young Emiratis. She asserts that family beliefs, traditions and restrictions are different from Western societies and as a consequence many Western values do not apply to most UAE nationals and are not accepted by them.

Student Focus Group 3 Participant: "I wanted to join (name of University) because it is one of the universities that has biomedical engineering, and biomedical engineering is not available in the region in general, in the Arab world, I don't want to leave home and go abroad to do that so that's one of the main reasons."

Student Focus Group 1 Participant: "Because of location, near my home. And my sister studied here so I know about the reputation of the university."

Student Focus Group 2 Participant: "I chose this university because it has a good reputation – that's the main reason. And because it's close to my house – I live in Abu Dhabi. I live with my family."

The question of whether voucher funding gives students more freedom of choice as to which institute to attend (the responses to the question: *If you had been given a voucher to attend any institution in the UAE would you have enrolled in a different university than the one you are currently enrolled in?*) received similar responses. While students still identified programme choice, reputation of the institution, employment prospects and family culture as primary selection criteria, students did acknowledge that a voucher could provide greater flexibility in choosing an institution. Students along with administrators and government officials responded to the need for some central depository that could provide information on all institutions such as course and programme offerings, enrolment capacities, student life amenities, graduate employment statistics, and the like to assist students with

their institution choice. The need to have a quality assurance mechanism in place was also identified as a key component of a voucher system so that students choosing institutions would know that quality standards are in place for any institution they are considering and should not be a determining factor in their choice.

Student Focus Group 2 Participant: “There is no one comparison – there is no statistics or comparison for all universities in one site, so that might be helpful.”

University Private Official 3: “Should have a central depository for institutional information available to students. Facts about the different institutions – what programme are offered, what are the employment prospects”

A question on whether students would be willing to pay a “top-up” fee over the voucher value if institutions were allowed to charge additional fees received mixed responses. Some students felt that given the requirement within the UAE constitution of providing free education to all students no “top-up” fees should be allowed and that vouchers should cover the total cost of a programme. Other students conceded that a “top-up” fee could be considered if it directly benefited the student, but not if it simply was a way of generating more money for the institution, or generating additional profit in the case of private institutions. A common response was that students would look at other institutions before paying a top up fee.

Student Focus Group 3 Participant: “No, what’s the point of having a voucher if it does not cover the cost of the programme.”

Student Focus Group 3 Participant: “Agree, may consider a top-up fee if it directly benefits the student, but not if it simply a way of generating more money for the institution. I would look at other institutions before paying a top-up fee.”

Student Focus Group 2 Participant: “If I noticed that the university is getting improved I will not have any problem with additional fees. But for many universities, without mentioning names, they are increasing fees without increasing service so that would be unfair for students.”

The students were generally in agreement that vouchers would make students more aware of the cost of higher education and of the funds available to them personally. In the case of students attending Khalifa University, funded by the Abu Dhabi government, students receive a stipend, in addition to free tuition, provided they maintain their grade point average at a stated threshold. If a voucher was provided to students with this criterion then students would need to be aware of the funds being provided to them given the possibility of students losing a portion of their funds should they not maintain stated criteria. If voucher funds were made available for private institutions then vouchers could also be seen as an incentive to students to utilize these funds rather than “leaving money on the table”.

The general feedback from students was that vouchers could instil a greater sense of control over their higher education, provided the voucher entitlements and any associated criteria was clear and that a central depository previously discussed was available which would allow students to make informed decisions about what funds were available to them and where they could spend them. There was also a general consensus amongst the students that this information could make them more aware of the government’s strategic priorities and labour market requirements if voucher numbers and values for specified courses and programmes were aligned accordingly.

Finally a question on whether vouchers should extend beyond traditional undergraduate and graduate programmes and include on the job training and life-long learning provided responses from students that suggested that internships could be included in a voucher scheme as they provide applicable career guidance and direction.

## **5.2. Enablers (Constraints)**

### **5.2.1. Funding**

In a study for the OECD, Jamal Salmi of the World Bank identified a number of key issues that policy makers need to resolve when considering the implementation of voucher funding for tertiary education (Salmi, 2006, p. 29):

- “Do vouchers cover the full cost of education, or will tuition fees be used to pay some of the costs?
- Do vouchers cover the full public cost of tertiary education, or is there a mix between supply side and demand side approaches?
- Are vouchers available to all students, or only to specific groups of students?
- Are the vouchers the same amount for all students, or do students from disadvantaged families receive more?
- Are students at private institutions eligible to use the vouchers, or are they restricted to those at public institutions?
- How are seats allocated to voucher holders at institutions that are oversubscribed?”

These issues could be further categorized according to price and quantity factors that are primary components of funding formulas for higher education institutions. Within the voucher funding scheme price would refer to the value of the voucher, differentiated by factors such as programme costs (laboratory – based programmes vs. non laboratory based, for example), programme level (Bachelor vs. Diploma, for example) and institution types (public vs. private). The public institutions are the federally funded institutions previously identified and the non-private, non-federal universities funded by the local emirates; the private institutions are the private universities owned by UAE entities and all other private universities operating in the UAE and overseas universities. Quantity would refer to the number of students eligible for funding, where eligibility would need to be defined. This could mean any UAE Emirati leaving school who has not previously enrolled in a higher education institution or it could also be extended to all UAE Nationals regardless of their age. While federal funding to date has been limited to Emirati citizens to attend federal institutions voucher funding could be extended to expatriates given that the development of the UAE depends significantly not only on having a well-educated citizenry but also a well-educated expatriate workforce as well. At present the UAE



does not assess any income tax for expatriates, however should that ever change then extending the benefit of free or subsidized education to expatriates could become a more compelling argument.

Given these various pricing and quantity factors the overarching question of voucher funding is how can governments control costs if vouchers are student driven. By fixing a value to a voucher without limiting the total number of students a government is effectively committing itself to an open-ended expenditure which, even with the resources available to the UAE, is likely not sustainable. To put a control on expenditures a government would need to look at alternatives such as placing a limit on the number of vouchers it would issue. This goes against the principle of widening and increasing participation that voucher funding is purported to support and would require the government to make decisions as to who would be eligible for voucher funding. Alternatively the government could look at varying the value of the voucher based on the number of students enrolling to maintain expenditures within a given limit. This would result in varying levels of support for students from one year to the next, a different level of unfairness as students in one year might be required to contribute from their own funds, something not required from students from other years. While these adjustments could be made to budgets in the following year this would likely result in budget shortfalls to universities in a given year and affect a university's cash flow.

University Private Official 2: "If our revenue was entirely voucher based at the undergraduate level ... then I think there would be a significant cash flow issue. If you didn't know actually what the situation was until September or maybe by the time you sorted it all out, October, then there would be significant cash flow pressure there."

This uncertainty of the level of government funding and the likely volatility of funding requirements given student demand was reflected by other respondents as well. While different viewpoints were expressed the common theme was that certain limits or criteria would need to be imposed, through the setting of quality standards for students to be eligible for voucher funding and by identifying the subjects and programmes that vouchers should fund.

Government Official 1: “The government would need to control the number of vouchers issued through a quality assurance mechanism, such as the CAA (Commission for Academic Accreditation) that establishes quality standards to which voucher funding would apply. Government could look to providing a certain percentage of funds via vouchers, for example, seventy per cent, leaving the higher education institutions responsible for the remaining thirty per cent.”

Government Official 7: “You could look at CEPA (Common Educational Proficiency Assessment) to control the number of students eligible for vouchers and the programmes that students would be eligible to enrol in such as medicine, engineering, business, etc., based on their competencies and assessment .”

Along with setting the number of students eligible for voucher funding (quantity), setting the value of vouchers (price) is the other control available to the government in capping its financial commitment. Identifying the subjects and programmes that vouchers should support becomes a necessary requirement along with setting the value of the voucher. The Colorado voucher scheme calls for a single value to be assessed to vouchers for all students studying any Bachelors or Diploma programme in a public institution and vouchers half that amount for students studying the same programmes in eligible private institutions. For the UAE similar decisions would need to be made on voucher values along with the programme that should be funded, be they only for Diploma and Bachelor programme, or expanded beyond these, and whether this funding should be limited to having students complete these programme within two and four years respectively. Additionally decisions would need to be made whether voucher funding be considered for postgraduate education and a further “lifelong learning” period. These decisions will need to be guided not only by financial considerations but also according to the role of higher education institutions within society and the objectives of the government.

University Public Official 1: “Public institutions should be on-going for decades if not for centuries and should be a service to the community. They

should provide programmes for undergraduate teaching, research, community service and graduate programmes.”

University Public Official 1: “There is a lot of uncertainty about funding of institutions in that sense (through vouchers) because there are core missions of the university that will always exist... outreach to the community (as a core mission) is quite important, we have been told that time and time over again by all the sheiks. Research is another big agenda, we want our faculty to do significant research, to invest their career, ... one of the big challenges we have is that we have to interest our faculty and give them the possibility to develop their career in the Middle East, it is not easy to convince people to come here for a good portion of their life and to invest in this part of the world. So that’s why I think funding public universities with a multi-level strategy (is necessary) where you have basic funding for infrastructure, for other missions of the university and a component that could be more or less significantly related to student numbers and programmes , programmes that you want to develop and the real cost of these programmes.”

University Public Official 3: “The most difficult decision would be on deciding the value of the voucher. What is the objective of the government? Caps would need to be set for programmes i.e. the number of students in programmes and funding limits per student per programme.”

University Private Official 2: “Voucher key benefit would be to target key sectors of higher education.”

Government Official 3: “Voucher values could be structured in two ways: first, with a given value differentiated by programme cost, and second, open voucher equivalent to the university set tuition fee schedule. This schedule would need to be approved by the Ministry of Higher Education.”

University Public Official 3: “Funding should be based on credit hours with limits set for undergrad, masters and Phd.”

A further consideration discussed to controlling government expenditures was allowing top-up fees to supplement vouchers. Given that the federally funded universities do not charge tuition fees for Emirati students because of the constitutional requirement that Emirati citizens are to be provided with free education, assessing a top-up fee could be an additional source of revenue, and if this was paid for by the local emirate on behalf of its students, then students would not be required to contribute their own funds. Within the UAE the federal government does not have an income tax system as its main source of funds. Rather, apart from revenues raised through fees and associated administrative charges, the funds are provided in large part through contributions from the local emirates. By having the local emirates provide the funding for the top-up fees for their students could be viewed as a means of providing greater equity funding between the federal government and the local emirates and would provide the additional revenues required to fully support a voucher system. Differing views were expressed by the respondents on this issue of top-up fees.

Government Official 5: "I question whether the incentive would be there for local emirates to top up vouchers because, one, the recession of 2008 has meant most local emirates don't have the money, and two, vouchers would compete with economic hubs that are realized when local emirates set up their own higher education institutions, such as Dubai, Ras Al Khaimah and Sharjah. The tighter the resources the more local emirates would likely want to invest in their own higher education institutions than look at paying top-up fees. The return from a top-up is an educated student that should in the longer run have an economic benefit... whereas investing in your own higher education institution should provide immediate economic returns."

University Public Official 1: "Could be an issue with emirates making different levels of contribution."

University Public Official 2: "In effect with federally funded institutions this is happening to a certain degree. Funding for operations is provided by the federal government while facilities and infrastructures are to be provided by the local emirate. Poorer emirates would still not be able to top-up while the

richer emirates such as Dubai and Abu Dhabi would rather invest in their own education authorities.”

University Private Official 1: “There are cash flow issues with the (Emirate) government, especially with the recent announcement of substantial wage increases for the Nationals, likely a reaction to the Arab Spring movement. If top-up concept is implemented (Private University) would want assurances that supplementary revenues from (Emirate) government would be provided on a timely basis – would not want to see additional receivables”.

University Private Official 3: “Some of this is already happening with local emirates supplementing the federal institutions through the provision of facilities, for example the HCT campuses and the American University of Sharjah campus, or through the sponsoring of specific requested programmes by local emirates”.

While the contributions the local emirates make in the provision of facilities and infrastructure go directly to the benefit of the students residing within that local emirate, the contributions that local emirates make to support the federal government operations cannot be directly tied back to the individual students from the emirate. Implementing a top-up fee could be argued as a means of tying the funds allocated by local emirates directly to their resident students.

As earlier discussed the development of the UAE depends significantly on having a well-educated expatriate workforce. A number of private higher education institutions have been established to cater to the needs of expatriates. Should the UAE government consider assessing an income tax on expatriate workers then an argument could be made for free or subsidized education for expatriates.

University Public Official 2: “True private schools have been set up to cater more to the expatriate students. If a tax system is introduced then these expats should be eligible for government funding to attend private institutions.”

Until such time if and when income tax for expatriates is introduced, including private schools to participate in a voucher funding scheme raises the issue of public funds going into private institutions, and further expands the financial commitment of the federal government. This financial commitment by the federal government could be controlled through limiting the value of the voucher, with the gap between the voucher value and the cost of the tuition covered through a tuition fee assessed to the student. While funding limits could be controlled in this way the issue of quality control would also need to be addressed.

University Public Official 3: “If the government’s intention is to open up all schools then a main criteria, outside of the additional funds required, is the quality of the schools. Certain guidelines would need to be established to ensure any private schools eligible for voucher funding met the quality standards set by the government.”

The discussion so far on the funding mechanism for vouchers has focused on the price and quantity factors and how these would need to be subjected to certain limits and criteria to enable the federal government to exert a certain level of control over its financial commitments and steering oversight. It is questionable whether this government control could be achieved through these voucher limits and criteria alone. With the implementation of the recent per student funding scheme for federal higher education institutions within the UAE (as shown in Appendix 4), one component of this scheme is a fee-for-service funding factor. This factor was established to provide funds to universities for specific services or programme such as a medical school or other expensive programme, the provision of postgraduate education, and the undertaking of research. These services and programmes were seen to fall outside of what the per student funding formula could realistically provide and are funded based on a contract that states explicitly what the university will deliver for this funding and what performance indicators will be used to measure the deliverables. A similar type of fee-for-service contract may need to be considered as part of a voucher funding scheme.

University Private Official 2: “Consideration of voucher funding may force a look at the business model of higher education, not just about recruiting the

best students for teaching and learning, but would force the policy discussion on funding for research, knowledge management, application of research in that the policy would need to define whether voucher funding was just for teaching and learning or for research as well.”

University Public Official 3: “Policy decisions need to be made as to what services the nation should provide and what the market can deliver.”

Finally, the issue of cash flow and how funding disbursements would be made through a voucher funding scheme were raised, primarily by the respondents of private institutions. As private institutions realize their revenues through the collection of tuition fees, sponsorships, endowments and other sources they are acutely aware of the need to properly plan for cash flows and the operational risks associated with delayed or un-collectable fees. How cash flow for higher education institutions would be impacted through a voucher system, and how funding volatility from one year to the next could result depending on student enrolment, would need to be assessed and contrasted against the current grant funding scheme.

University Private Official 3: “Cash flow would be a greater issue – private universities rely on tight cash flow. The government is known for slow payment which would have a negative effect on private university operations. Other reporting requirements do not seem as overbearing or significantly different from what (our university) is currently doing.”

University Private Official 1: “Under a voucher funding scheme you would likely need to establish individual fees for undergrad. programme to align with voucher values – this would also require the financial reporting system to track the costs and revenues. You would likely require more robust external reporting – there would be a cost with that. (Our university) is moving to a cohort model so this may need to be modified for a sub-cohort tracking for the voucher funding. (Our university) should be able to handle this – the biggest concern again is with cash flow – receivables.

University Private Official 2: “Encashing the voucher would likely be an additional burden and administrative requirement. Currently students walk in and are assessed a tuition fee. Under the voucher system students would need to be provided with a voucher ahead of time relating to the programme they wish to pursue. If they change their mind at the last minute - there is a last minute culture in the UAE – then a new voucher would need to be issued which complicates the admissions and registration process. The university would then need to encash the voucher with the Ministry to obtain its funds – these are additional processes and possible cash flow issues. I think it is premature to introduce vouchers.”

### **5.2.2. Physical Facilities and Infrastructure**

Universities are required to have infrastructure for the core services of teaching, research and community service. Having the funding for this infrastructure based primarily on voucher funding raises the issue of unstable facility planning given the volatility of funding should a sudden shift in student enrolment occur. A separate funding mechanism may therefore be required for physical facilities and infrastructure.

University Public Official 1: “There is a lot of uncertainty about funding of institutions in that sense (through vouchers) because there are core missions of the university that will always exist... so that’s why I think funding public universities with a multi-level strategy (is necessary) where you have basic funding for infrastructure, for other missions of the university and a component that could be more or less significantly related to student numbers and programmes , programmes that you want to develop and the real cost of these programmes.”

Other respondents echoed similar statements that while student enrolment could be a factor to determine funding for facilities and infrastructure, having facility and infrastructure funding based entirely on student enrolment would likely have adverse effects on facility planning and institutional cash flows.



University Private Official 2: “If our revenues were almost entirely voucher based ... then I think there would be a significant cash flow issue. With our model at the moment, the way the (Emirate) government works, a calendar of January to December, and in a way that is quite useful for us because we do have that (facilities) negotiated separately from the start date of our programmes. If you don't know actually what the situation was until September or maybe by the time you sorted it all out in October then, yes, there would be significant cash flow pressure there.”

The provision of physical facilities and infrastructure also varies amongst the federal government and the local emirates. The federally funded Higher Colleges of Technology system has separate campuses for male and female students supplied by the local emirates of Abu Dhabi, Dubai and Sharjah. The emirate of Sharjah has provided the facilities for the American University of Sharjah, a private co-educational university. In addition the Ruler of Sharjah also funded the campus development for the University of Sharjah, with separate facilities for men and women.

Variances also exist in operating costs amongst government funded and private institutions, utility costs being one example. Utility costs for the Dubai Women's College of the HCT system are covered by the Dubai emirate, while the utility costs for the Dubai Men's College, and all other campuses of the HCT for that matter, are the responsibility of the HCT. At the private American University of Sharjah the Ruler of Sharjah covers the cost of utilities.

University Private Official 1: “Sharjah provided the facilities and has paid for utilities for the past 15 years - although this may likely cease in the future”.

Private institutions usually have the ability to set up operating reserves for future facility maintenance and to buffer facility requirements from sudden enrolment shifts. Setting up such reserves is not available to government funded institutions that operate on an annual cash budget basis.

These variances in funding arrangements, and in the requirement for the federal government to provide separate campuses for male and female students, add additional complexities that voucher funding would need to address as it relates to the provision of facilities and infrastructure and the related operating costs. For institutions to compete effectively, as proposed under a voucher funding scheme, it is important to ensure a level playing field exists and that all institutions are competing under the same conditions. This is not only a matter of fairness but one would argue required to ensure the full benefits of competition can be realized.

### **5.2.3. Geographical Access**

The provision of equitable access to all students given geographical constraints is a further issue when considering a voucher funding system. How would students from sparsely populated rural areas be provided with access to educational institutions equal to their urban counterparts? Urban areas have a greater diversity of institutions and have public transportation. The same diversity and accessibility is not available in rural areas within reasonable travel distances. The federal government, for example, directed the Higher Colleges of Technology (HCT) in 2006 to establish separate campuses for male and female students in the sparsely populated western region of the UAE to ensure students there had access to local higher education facilities and to also spur on economic and social development. While such development was a federal priority the HCT may not have had sufficient funds to undertake this project if funding was provided solely on a voucher funding basis. These views were supported by a number of the respondents.

University Public Official 1: “Voucher may not accommodate state priorities. Setting up a rural campus in the Western region may be a state priority but may not be feasible if to be funded solely by voucher.”

On the other hand arguments were made that vouchers could actually be used to incentivize enrolment at remote institutions, making vouchers only available for these institutions, or perhaps by providing supplemental funding to those students that chose to enrol in these institutions.

Government Official 1: “Actually (vouchers) could be used as a way to reduce the discrepancy that you can find in regions like Al Rabaya (remote western region of the UAE). So you can make the voucher as an incentive for sending students to regions like Al Rabaya. We could give the vouchers, not maybe to all institutions but to institutions who will operate in these (remote) regions.”

If providing higher educational facilities in remote areas is not feasible then transporting students from these remote areas to urban areas would be an option towards more equitable access to institutions of choice. A number of universities, such as the federally funded UAE University and the private American University of Sharjah have residence halls and the Dubai Academic City has residence halls for students attending the various universities located there. Both student accommodation and related transportation costs would therefore need to be considered as part of a voucher scheme to address inequities in access to universities due to geographical location. It would appear that accommodating this support through voucher funding would be relatively straight forward, through the provision of an additional funding amount to cover these costs.

University Private Official 3: “The voucher system would be the mechanism for incentivizing that would be reasonably cost effective to implement because once you have that basic voucher in place adding the other possibilities (such as housing and transportation) would become straight forward.”

Government Official 1: “Given the context of Abu Dhabi, I think, and the UAE we need to encourage the students to enrol in higher education... it would be important to include this (transportation and housing) within the voucher because what has been happening is that all universities are offering this service already to their students.”

#### **5.2.4. Administrative Requirements**

The introduction of a voucher funding system raises the question of what additional administrative requirements and costs higher education institutions would likely

incur from its implementation. Under a voucher funding scheme data would need to be collected and analysed according to the credits or semesters enrolled and completed by individual students along with the various voucher values assigned to different subjects and programmes.

University Public Official 1: “Need to track students, track students as they move semester by semester, year by year and if they change programmes. Also students dropping a course – asking for refund or credit.”

Individual student records would need to be maintained to be able to track student progress and associated funding, not only from semester to semester and programme year to programme year, but also for transfers between programme and institutions should students decide to change their choice of programme or institution.

University Public Official 3: “How to detail the information logistics – the tracking of students as they progress or change programme or institutions. Challenge to the Ministry of Higher Education is the audit function – how to confirm the number of students enrolled, in which programme, etc.”

Tracking and analysis of data were noted by a number of respondents as the main administrative requirements associated with a voucher funding scheme. While most respondents felt that given their financial and administrative information systems this should not be an overbearing burden, concern was expressed that there needed to be a positive trade-off between the resources committed for tracking and analysis of students against the funding received under a voucher funding scheme.

University Private Official 1: “Voucher funding could become a deal breaker if the number of students that could be funded through vouchers is small and the reporting and administrative requirements are excessive.”

University Public Official 2: “Universities rather than becoming susceptible to losing students from common programme or courses may look at trying to

make programme or courses more unique – this raises the question of comparability of programme or courses... credits would need to be easily transferable... lots of efforts would go into bean counting and performance indicators – who is doing a better job. There would need to be an autonomous central unit / infrastructure to evaluate and assess programme and accredit them.”

To ensure accurate and consistent unit-based information for each student within the UAE, and potential student, is collected, analysed and maintained will likely require both an audit function and a central data collection unit. Within the UAE this central data collection and analysis unit would logically appear to be the recently established Center for Higher Education Data and Statistics (CHEDS) within the Ministry of Higher Education and Scientific. CHEDS has been established as the national body for the collection, analysis and reporting of data on higher education in the UAE and completed its first data collection and report in August, 2012. (CHEDS, 2013). In an interview with the CHEDS Project Leader the role of the unit was further elaborated:

CHEDS Project Leader: “The federal data warehouse unit has been operating for about 3 years. It has now been taken over by CHEDS. It was originally part of the CAA (Commission of Academic Accreditation) to collect information for accreditation purposes however the Ministry of Higher Education wanted a more robust and comprehensive data collection system. CHEDS will replace the data collection schemes from public and private institutions and for the CAA it will replace its data collection system. Performance indicators have been developed – looked globally and have come up with 62 indicators.

CHEDS will be the data collection for all public and private institutions in the nation – exception may be the free zones. The KHDA (Dubai Knowledge and Human Development Authority) is questioning whether they will participate or not. The data unit will also be a repository for students on programme offerings, satisfaction levels, job placement, etc. During the early years of establishing the data unit there will need to be collaboration

amongst the institutions – agreement on the measures to be used and reported upon.”

Data audit is a key administrative element of a voucher funding scheme as funding would be based on the number of students, likely differentiated by programme and degree type, and as this various data would translate into money, hence the need for an audit function to ensure the data provided by the universities is accurate. As discussed in Chapter 3, the federal government in implementing the current per student funding formula, has called upon the State Audit Institute (SAI) to audit the number of students who had enrolled in the three higher education institutions. Whether the audit function for a voucher funding scheme would best be handled by the SAI or whether this function should be incorporated under CHED’s remit or within another entity would need to be determined.

University Private Official 3: “Need for an audit function to record students that have dropped out and for which voucher funding should cease”.

University Public Official 3: “Challenge to the Ministry of Higher Education is the audit function – how to confirm the number of students enrolled, in which programme, etc.”

While the administrative requirements for implementing voucher funding within the UAE are not insurmountable, and in fact given the recent establishment of CHEDS, may be quite feasible, sufficient time and attention needs to be given to determining these requirements before implementation, a view summarized by the respondent below:

University Private Official 2: “Need to ensure that all administrative requirements and the QA regime is thought out before it is implemented – there is a tendency in the UAE to implement things quickly once a decision has been made.”

Data collection and audit requirements could logically be argued to be governed centrally by the federal government to ensure consistency and compliance amongst the higher education institutions to be funded under a voucher funding scheme. The same argument could be made for other elements discussed such as quality assurance, determining voucher values, and determining student eligibility for voucher funding. Discussion on the various aspects of governance required for effective implementation of voucher funding follows in the next section.

#### **5.2.5. Governance Body**

As discussed in Section 5.1.3 Protecting Subjects and Government Steering, the governance and oversight of the higher education system falls under the remit of the Ministry of Higher Education and Scientific Research, whose mandate includes (MOHESR, 1994):

- “Planning the higher education and research systems in the UAE and defining the required types, sizes, majors and geographic distribution of institutions in light of the overall development needs of the country
- Coordinating and integrating all the budget needs for all Higher Education institutions and research
- Coordinating and integrating academic majors and degrees and programmes offered by all higher education institutions and ensuring their alignment with the overall higher education plan
- Coordinating the admissions policies of the three institutions and the criteria for distributing students between the different academic majors within the three federal institutions.”

The Office of Higher Education Policy and Planning within the MOHESR was established in 2004 to provide this role however with the introduction of the new per student funding scheme in 2008, as described in Section 3.2, this unit’s role was effectively diminished. As such it appears there is currently no unit within the MOHESR that is providing this planning and coordination function to ensure that higher institutions are interacting to deliver the programmes needed by the UAE. In the absence of this centralized planning and coordination function individual higher education institutions are left to themselves to develop their programmes according to their strategic plans and priorities and not necessarily those of the nation. This is further illustrated by the establishment of the Higher Education Coordinating Council

that was established in 2008 to govern the new per student funding scheme (Swan, 2011). The membership of this council is comprised of the senior leadership of the three federal universities so it is questionable whether this body is able to independently assess its performance or to represent the needs of its member's respective universities along with the needs of the nation. The HCT for example raised its admission requirements in 2012 to match those of UAE University and Zayed University (Swan, 2011). This resulted in the HCT enrolling only 4,160 students that year, down from 5,533 the previous year and 8,024 in 2010. While this decision may have been in the best interest of the HCT, given that it would no longer have to devote about 30 per cent of its budget to remedial courses in maths and English to prepare students for degree studies, and given that under the per student funding scheme, degree taking students generate more funding than diploma students, this decision was not assessed against the needs of the UAE nor did it take into account that there was no more national capacity to produce technical level graduates in any federal university. In the absence of any national oversight of the missions of the universities the situation has now arisen where there are no longer guaranteed university places for all Emirati school leavers (Swan, 2011).

A further conflict, until recently, was that the Minister of Higher Education and Scientific Research was also the Chancellor of each of the three federal universities. As Chancellor he was responsible for the optimal development of each university while as Minister he would be responsible to make decisions that were in the best interest of the nation. This conflict was eliminated when the federal government swore in a new cabinet in March, 2013 and the existing Minister of Higher Education and Scientific Research was appointed to a new cabinet post (Salem, 2013).

As discussed in Section 5.2.1 Funding, a voucher funding scheme, like all other funding schemes, cannot have open-ended funding. If the total funding is fixed then the variables for control available to the federal government are the value of the voucher and the number of students eligible for vouchers. It would appear essential therefore that some national planning and coordinating role is required to agree the distribution of students by institution and by programme and subject to meet the overall development needs to the nation. Seeing that it is questionable whether this role is being provided by the Ministry of Higher Education and Scientific Research



and given the inherent conflict with the current Higher Education Coordinating Council, one can look to other countries for examples for the planning, oversight and coordination of funding schemes amongst higher education institutions. In a number of countries these roles lie not within a ministry but rather to a semi-autonomous body that is independent of a single ministry. In England for example, the Board members of the Higher Education Funding Council for England (HEFCE) are appointed by the Secretary of State for Innovation, Universities and Skills, usually for a period of three years. The appointments are made on the basis of the member's expertise in education, or their experience in industry or the professions (HEFCE, 2013). Other countries that have similar bodies include India, Thailand, New Zealand, Ireland and Hong Kong. How best the UAE may address this governance issue will be discussed in Chapter 6, Recommendations and Conclusion.

So far the discussion has focused on the mechanics and processes associated with voucher systems. It may be worthwhile to consider the potential impact that the local culture of the UAE may have on implementing a voucher system.

#### **5.2.6. Cultural and Organizational Considerations**

Lane et al (2000) in their book *International Management Behavior* state that organizational structures are not free from the influence of culture. They contend that based on cultural backgrounds, managers can hold different views regarding structure. By applying their concepts to the UAE context an example is provided in Table 5 in which Western managers are identified as holding an instrumental conception of organizational structure while Middle East managers are identified as holding a social conception.

**Table 5: Organizational Structure as Influenced by Culture – Two Views**

Instrumental – Western Manager	Social – Middle East Manager
Positions are defined in terms of tasks	Positions are defined in terms of social status and authority
Relationships between positions are defined as being ordered in any way instrumental to achieving organizational objectives	Relationships are defined as being ordered by a hierarchy
Authority is impersonal, rational, and comes from role or function; it can be challenged for rational reasons	Authority comes from status; it can extend beyond the function and cannot be challenged on rational grounds
Superior-subordinate relationships are defined as impersonal and implying equality of persons involved; subordination is the acceptance of the impersonal, rational, and legal order of the organization	Superior-subordinate relationships are personal implying superiority of one person over the other; subordination is loyalty and deference to the superior
Goal attainment has primacy over power acquisitions	Achievement of objectives is secondary to the acquisition of power

Source: Lane, DiStefano & Maznevski, (2000) as adopted by the author

These cultural differences and their impact on how organizations function could have an impact on entrepreneurial activities that institutions may wish to pursue. This may become more of an issue under a voucher funding scheme if institutions believe they need to become more entrepreneurial in their efforts to attract students and to raise additional funds. The use of alumni, for example, to help recruit students and to raise funds is common amongst universities in the west. This approach however is still a relatively foreign concept with government funded institutions in the UAE.

University Private Official 1: “Alumni functions are different from the west. Institutions are basically saying that the local ruler cannot afford to pay for the cost of education so they are required to go out and beg for money”

A further example is that of naming a building, which again is a relatively common practice with universities in the west and which can raise substantial revenue.

University Private Official 1: “To name a building the ruler needs to approve any name associated with “His” buildings. A lot of filtering needs to be done”

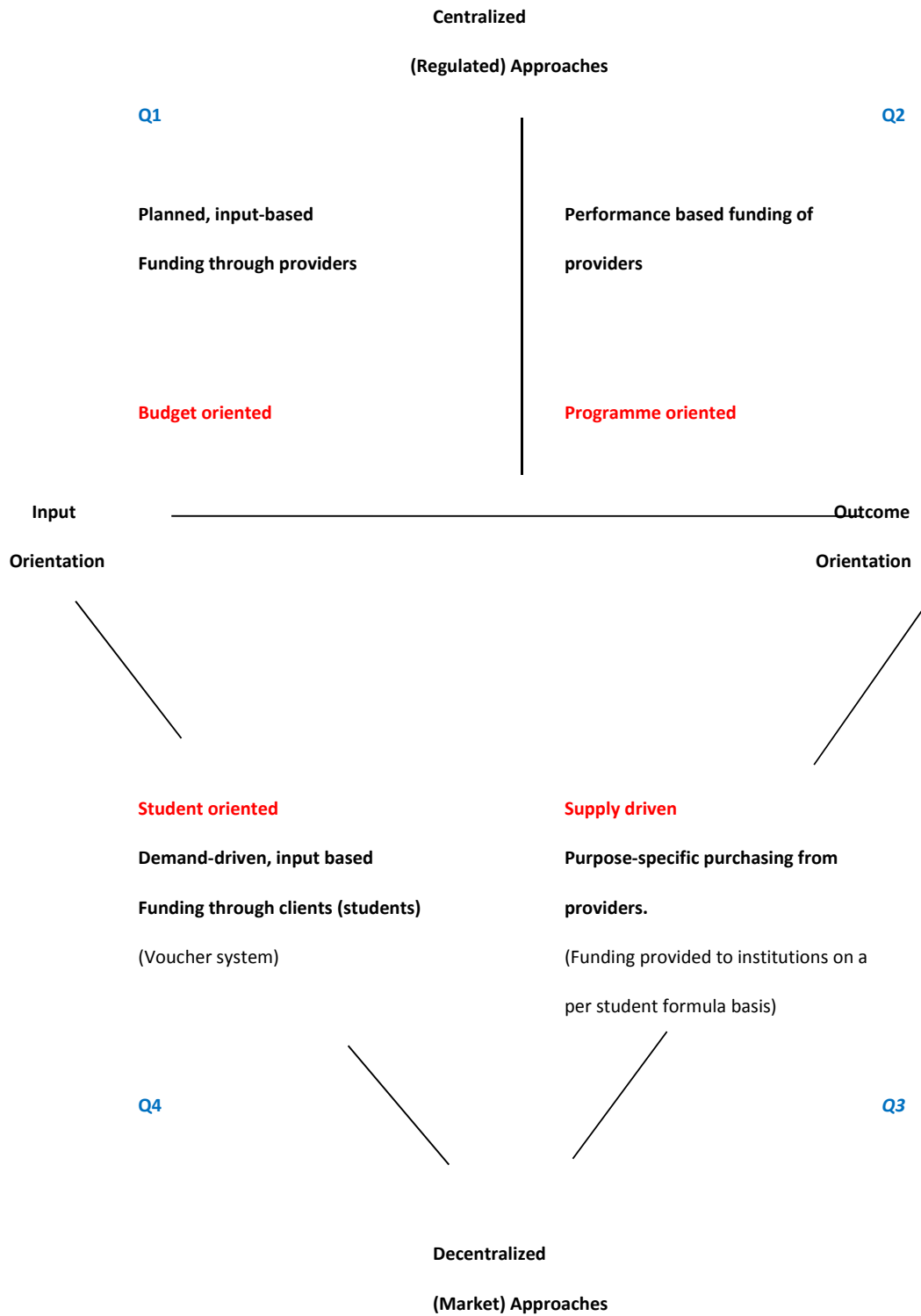
Care therefore has to be taken in alumni development and other entrepreneurial activities to guard against being insubordinate to the leadership and to respect the local customs. It may be more appropriate to have alumni development follow the concept of partnering, as in Islamic finance, whereby partners agree upon a profit rate for a venture, rather than the concept of charging interest for funds provided. Alumni could partner with institutions to help with student recruitment activities and in providing donations – this would appear to be no different from activities of alumni in the west however the manner in which these activities are structured and presented to be in harmony with local customs is the key differentiator.

### **5.3. Transition**

#### **5.3.1. Vouchers vs. Per Student Formula Funding**

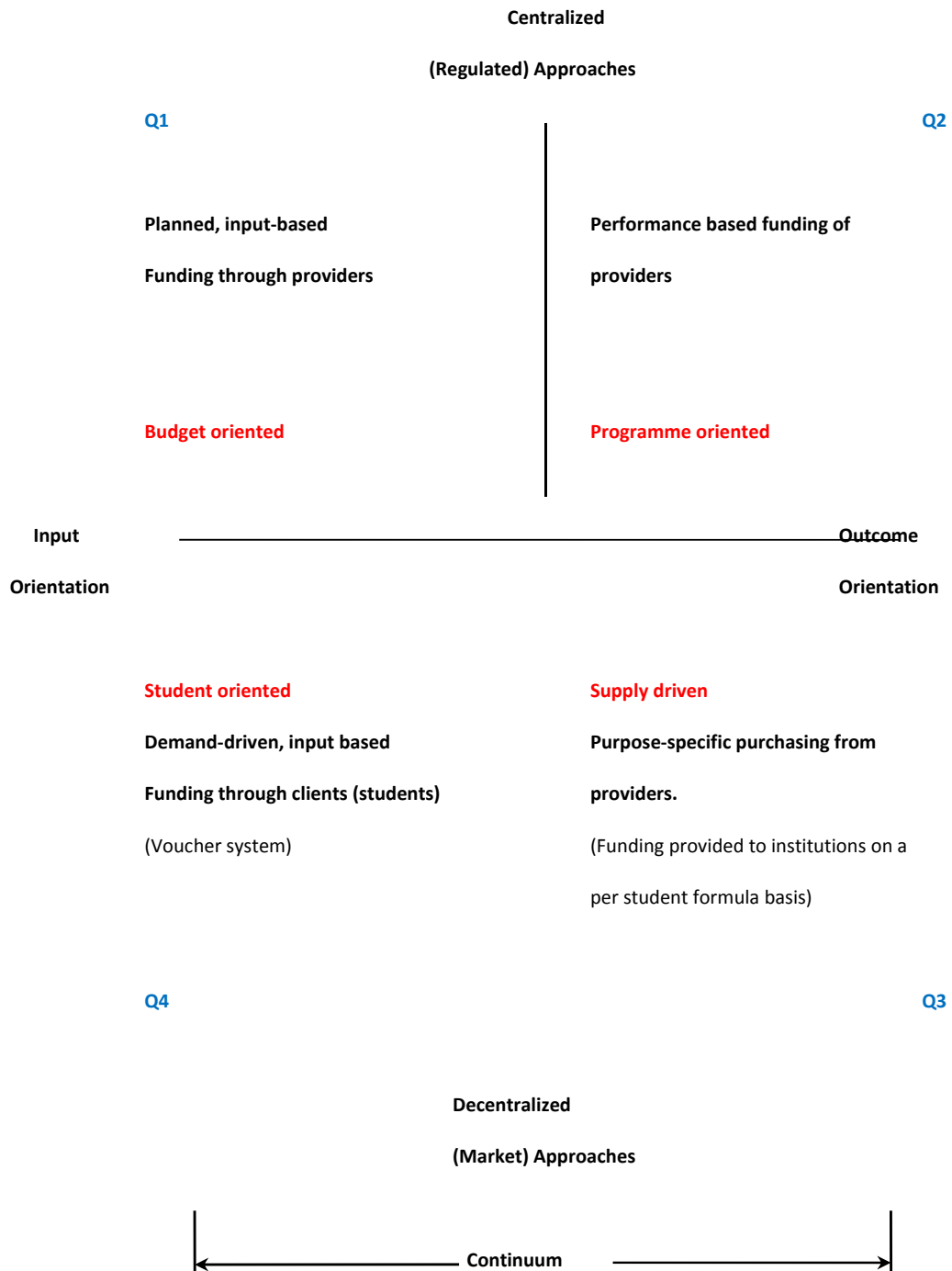
A question on the difference between voucher funding and the current per student funding scheme adopted by the UAE federal government was raised by a few of the respondents during the interview sessions. Some authors contend that any funding system that is driven by student enrolment is in effect a voucher system. They assert that funds received by the institutions are ultimately determined by the number of students enrolled in an institution, regardless of whether these funds were driven in an indirect way through a per student formula, or directly funded via the student. Utilizing Jongbloed' s (2004) funding model, this viewpoint could be illustrated by showing quadrant 3 (Q3) and quadrant 4 (Q4) as not distinct – rather the supply side is still student driven and therefore the two quadrants could be viewed as converging to the middle, as shown in Figure 10.

**Figure 10 : Jongbloed's (2004) funding model analysis – Modified: Fully Student Driven**



Source: Jongbloed, (2004) – as modified by the author

**Figure 11 : Jongbloed's (2004) funding model analysis – Modified: Vouchers as a Continuum**



Source: Jongbloed, (2004) – as modified by the author

Other authors, such as Nicholas Barr, argue that “vouchers should be thought of as a continuum, from 0 per cent constrained (“law of the jungle”) to 100 per cent constrained (“pure central planning”) or anywhere in between.” (Barr, 1998). He argues it would be a mistake to simply conclude that universities which attract a large number of students would flourish while those who fail to attract students would perish. This viewpoint could be illustrated by modifying Jongbloed’s (2004) funding model to show that quadrant 3 (Q3) and quadrant 4 (Q4) represent a continuum between demand driven funding and supply driven funding, as shown in Figure 11.

While the resulting funds provided could be similar under a per student funding system and a voucher funding system proponents of voucher funding argue, as discussed in the Literature Review Chapter, that the philosophy and possibly the psychological effects of voucher systems influence students to be more aware of the funds provided for their education and to be more serious about their higher education, and for institutions to become incentivized to improve their efficiencies and quality.

Government Official 3: “With per student funding the institution will without any effort get students enrolled. Under a voucher system the money is in the hands of the students and they can choose to go wherever they want so institutions have to become more efficient and effective in attracting students and in running their operations”.

Government Official 1: “Both per student funding and voucher funding need to have an output measure included as part of the funding scheme. Per student funding without any output measure will not provide the incentive for improving quality – the more you enrol the more money you get. Voucher funding, which would only be available for students to use at listed universities would encourage universities to improve their quality and to attract more students. Without this output quality measure there would be no difference between the per student funding and voucher funding”.

### 5.3.2. Transition to Vouchers

If the federal government made the decision to implement voucher funding how best should this be implemented? What would be the most pragmatic method to transition from the current per student funding scheme to voucher funding. It is not uncommon for governments to consider running a pilot programme before implementing a full-fledged initiative. This provides the opportunity to evaluate the results from a smaller select group, to look at lessons learned and to incorporate any improvements prior to roll out of the initiative to the larger group. Given that the UAE is a young country and that a number of the universities are new and starting up, and given that the federal government has only recently introduced the per student funding scheme, it would be reasonable to start with a pilot programme for voucher funding to include all three federal universities and a selected number of other universities.

Government Official 1: “Voucher implementation requires a more mature higher education system. A number of the universities are new and starting up and efficiencies have not yet been realized. In four or five years’ time perhaps voucher funding could be applied as a pilot in two or three universities.”

The previous discussion on the proposed voucher state attributes and the enablers and constraints of implementing a voucher funding scheme highlighted the need to have an operational framework in place to support a voucher funding scheme. This would include a nationwide quality assurance programme, a central data unit responsible for the collection and audit of unit-based information for each student, and a central agency responsible for the coordination and governance of the voucher funding scheme, bringing together the interests of the Ministry of Higher Education and Scientific Research, the Ministry of Finance and Industry, the Ministry of Presidential Affairs and the individual Emirates and their respective higher education institutions. The voucher funding model itself, the voucher values, how these would be determined by subject area and how these would be allocated by student or credit numbers, would need to be fully understood not only by the higher education institutions but by the government officials responsible for its implementation.

University Public Official 2: “Unless you have a formula funding that is really mature and understood fully from the Cabinet on down, that is, understanding outcome measures, FTE students, etcetera, it is premature to consider implementing a voucher system in the UAE.”

Some interviewees were quite specific in how the federal government should phase in the voucher funding formula and how the voucher funding scheme should be coordinated with the local emirates. While these views could be debated, with the argument that a voucher funding scheme should be fully implemented once a pilot programme has been completed, and adjustments made to the voucher funding scheme based on the lessons learned, the assertion of phasing in voucher funding points to the realization that such a scheme needs to be fully understood by all parties and the operational framework to support this funding scheme needs to be in place for effective implementation.

Government Official 3: “First year to have 80 per cent of funding provided to national students on a per student funding basis and to have 20 per cent funded on a voucher system for the excellent students – allow excellent students to go where they want. Each year thereafter the per student funding proportion to be reduced and the voucher funding proportion to be increased as an incentive for institutions to improve their efficiencies. As per the constitution the Federal Government is obliged to provide education to its students, so the voucher system would facilitate this. However there would need to be coordination amongst the local emirates so that there is not double funding to a student. Scholarships would also need to be coordinated if a voucher system is implemented. Scholarships are to be provided only if programmes cannot be offered in the UAE.”

The standard of school leavers was brought up again as an issue that should be addressed before considering the implementation of voucher funding. As discussed in Section 5.1.2 Equity, the level of school leavers that are able to go straight on to university degree courses is very low. The discussion on the Abu Dhabi Education Council (ADEC) stated this number to be 12 per cent for the start of the 2012-13 academic year. In response to this deficiency ADEC implemented a New School



Model in 2010 to target a shift from an emphasis on content (“rote learning”) to one of critical thinking and an encouragement to continue learning throughout life. The timeline for full implementation of the New School Model is ten years.

Government Official 5: “First, the federal government needs to invest in the K – 12 sector to ensure an acceptable number, to be determined, of school leavers are up to standard of college entry. Next, diversify the federal institutions to allow expat students to enrol – two reasons: One: Provide national students with the classroom experience of interacting with different nationalities and Two: To prepare for global community they may eventually work in. Then go to vouchers for specific programmes as required by the nation such as education, engineering, tourism – programmes that are required but not necessarily popular with the students. Then consider implementing full voucher scheme for the federal institutions. At this point with a combination of expat and national students the federal institutions may be more sheltered / tempered from swings in enrolments due to vouchers and students voting with their feet.”

University Public Official 2: “The main problem is that the majority of students are not prepared for higher education – so how would a voucher system address these students. The high achieving students basically have a voucher type of system available to them already – they can receive scholarships to go to overseas universities or scholarships to attend local universities like NYU, AUS, Sorbonne, etcetera.”

Other respondents questioned whether the UAE was mature enough to introduce a voucher funding scheme at this time. Reference was made to “turbulence” in that the UAE is going through such an expansive change that more time is needed for policy discussion on the objectives of higher education and the resources required. Before voucher funding is introduced it may be more necessary to have further dialogue on funding not only for teaching and learning, but for research and knowledge management as well.

Government Official 5: “To implement a voucher scheme you require a set of other policy issues – too complicated as standalone – too much turbulence. We neglect turbulence – the UAE is going through such an expansive stage. All universities are subject to certain amount of turnover however in the UAE this is much more apparent – a higher degree of turbulence. How do you do social engineering given this level of turbulence? In the west we think linear – test, evaluate, decide. This does not necessarily translate to the Arab culture. In the UAE there are two societies: Emiratis and expats; male and female students – challenges are different here”.

University Private Official 2: “It may be worthwhile to have the discussion on vouchers, to begin the dialogue. Consideration of voucher funding may force a look at the business model of higher education, not just about recruiting the best students for teaching and learning, (it) would force the policy discussion on funding for research, knowledge management, application of research in that the policy would need to define whether voucher funding was just for teaching and learning or for research as well. I question though whether the higher education sector is mature enough to have these difficult policy discussions.”

## **5.4. Summary of Findings**

The analysis undertaken in this chapter focused on three data theme categories, those being: the proposed voucher state attributes and the underlying principles they encompass; the perceived enablers to facilitate this transition from the current methodology of funding to voucher funding; and the transition process itself. The findings of each of the data themes will be summarized in turn, starting with the proposed voucher state attributes.

### **5.4.1. Proposed Voucher State Attributes**

#### **5.4.1.1. Efficiency and Quality Assurance**

The common argument of proponents of vouchers is that because the funding of an institution is linked directly to the number of students it recruits, the institution in

response to market competition becomes more efficient, more responsive to the programmes that students wish to study and more quality focused. The responses to the theme of efficiency brought to light that while voucher funding may provide students with a greater voice over their choice of programmes and institutions it would not necessarily equate to an increase in the quality of programme delivery nor in the delivery of programmes in the strategic interest of the nation. A number of comments were raised about the potential of students choosing programmes or institutions that had lower standards and were easier to access, which could result in a “race to the bottom”. As such it was identified that a quality assurance and improvement programme would need to go hand in hand with the implementation of a voucher funding scheme.

Currently the Ministry of Higher Education and Scientific Research, through the Commission of Academic Accreditation (CAA), provides a licensing and accreditation function for the three federal higher education institutions and for private institutions to permit them to function and thereafter to accredit and re-accredit their programmes. (Foreign institutions operating within the free zones are not subject to the licensing requirements of the CAA; however they are subject to the quality assurance requirements of the individual emirates.) Given the need to improve quality and efficiency in response to the market forces of a voucher funding scheme an “academic audit” approach is likely more appropriate, focusing on institution-level quality assurance and improvement processes and outcomes measures rather than having an approach based on summative judgements about delivered quality and compliance.

A number of countries have implemented “academic audits” including Australia, New Zealand, England, and the U.S. states of Missouri and Tennessee. The Canadian province of Ontario, through the Ontario College Quality Assurance Service (OCQAS), has been illustrated as an example of the academic audit mechanisms and procedures used by an institution to assure and measure, and also to improve, the level of quality.

A determination would need to be made as to whether the role of the CAA should be expanded to include academic audits, whether this could be incorporated under

the mandate of CHEDS or whether a separate unit should be established for this function.

#### **5.4.1.2. Equity**

While efficiency arguments for voucher funding are linked to supply side, on the demand side arguments for vouchers are proposed to increase equity amongst students and are proposed to offer greater choice and flexibility over institutions and programmes. Within the UAE the federal constitution provides for free enrolment for Emirati students at one of the three federal higher education institutions, subject to the student's assessment and the eligibility criteria of the institution as administered by the National Admissions Placement Office (NAPO). The student assessment not only determines which of the three federal institutions the student is eligible to enrol in, it also determines whether the student can enrol directly or whether the student needs to take foundation programmes. Each of the three federally funded higher education institutions within the UAE offer foundation, or bridging programmes, in English, mathematics and related subjects to bring the skill level of school leaver students up to university entry standards. As noted, within the emirate of Abu Dhabi the Abu Dhabi Education Council (ADEC) reported that at the start of the 2012-13 academic year only 12 per cent of school leavers were able to go straight on to university degree courses, with the rest needing remedial lessons in English and other subjects first (ADEC 2013). New School Models were introduced in 2010 to address this deficiency as well as to target a shift from an emphasis on content ("rote learning") to one of critical thinking and an encouragement to continue learning throughout life. For Emirati students therefore access to the federal institutions and programmes of their choice is not an issue of financial constraint (as enrolment is free) but rather an issue of the students being adequately prepared. For access to private institutions high achieving Emirati students are often able to obtain scholarships provided they meet the eligibility requirements. For those Emirati students not eligible for scholarships they may still be able to enrol in private institutions if they meet the admission criteria and are able to pay the tuition fees. In this case voucher funding could provide greater choice and accessibility for Emirati students. This does raise the issue of federal (public) funds going into private institutions and the capacity of the federal government to finance this level of access. Extending voucher funding to expatriate students to allow them similar access to higher education institutions is a further consideration. As discussed the

development of the UAE depends not only on having a well-educated citizenry but also on the presence of well-educated expatriates, many who have made the UAE their home and whose commitment is to the UAE. While the UAE could see this as an incentive to recruit and retain the required expatriate workers to support the ambitious development plans of the UAE, this would place additional financial constraints on the government. Equal access for expatriate students may need to be viewed as more of a citizenship issue requiring some form of an income tax regime for expatriate workers to enable a voucher eligibility requirement.

#### **5.4.1.3. Protecting Subjects and Government Steering**

While equitable access to institutions and programmes may be more of an issue of national students being adequately prepared the issue of which institutions and programmes voucher funding should support could have opposing effects on government steering and protection of subjects. A review of the UAE 2021 Vision and the Abu Dhabi Economic Vision 2030 indicates that both the federal government and the Abu Dhabi emirate government see a highly skilled work force, comprised of both Emiratis and expatriates, as a key driver of economic growth. Recent initiatives such as the introduction of the New Model School and the introduction of vocational education and training to complement higher education institutions are seen to support the establishment of the “learning state” required to ensure that graduates have the skills and qualifications to drive economic growth. More specifically the Abu Dhabi Economic Vision 2030 has identified that specialized education will be required to meet the projected future growth sectors primarily in the fields of engineering, aerospace, information technology, medicine, applied sciences, and tourism and business. An entirely market-driven system where programme choice is left up entirely to students could result in enrolments in these subject fields falling below the strategic and economic targets set by the government. As well, programmes of high cultural value but low enrolments could be at risk if simply left to market forces. Universities, along with other cultural institutions, are often viewed and tasked with the responsibility of being a primary depository of a country’s history and culture. Proponents of vouchers suggest that altering voucher values, or limiting the number of vouchers available, could be used by a government to steer students to programmes and courses required to support is strategic and economic objectives and to protect high cultural value but low demand programmes. Whether this would be workable within the UAE is

questionable. Also questionable is whether there is a government entity that can carry out this steering and governance function. As discussed in Section 5.2.5, Governance Body, the governance and oversight of the higher education system falls under the remit of the Ministry of Higher Education and Scientific Research. There appears however to be little evidence of this government unit providing this governance and coordination function, by and large leaving the individual higher education institutions to themselves to develop their programmes according to their strategic plans and priorities and not necessarily those of the nation.

#### **5.4.1.4. Student Choice, Awareness and Motivation**

Student choice and awareness as it relates to voucher funding raises the issue of whether students have meaningful information to make sound decisions for their higher education. In pure economic theory, as Brown (2013, p. 24) points out, “Students’ choice of what, where, and how to study would be based on valid, reliable and accessible information about the price, quality and availability of relevant subjects, programme and institutions, and their suitability for them.” Achieving these conditions would be difficult, as Brown concedes, given the challenge in making valid comparisons between programme and institutions given the number of variables involved such as institution missions and character, programme content and delivery, resources, and assessment practices, leaving students to perhaps base their choices on the perceived “prestige” of institutions and programmes. From the interviews conducted student responses were quite consistent in that the choice of programme and the reputation of the institution were common reasons for choosing an institution, with students interviewed from private institutions also listing employment prospects as a determining factor for choosing an institution, perhaps given that these students were paying tuition compared with the free tuition offered at the federal and emirate funded institutions. While these factors for choosing a programme and institution are likely similar for students from the West, within the UAE family beliefs, traditions and restrictions are different from Western societies and as a consequence many Western values do not apply to most UAE nationals and are not accepted by them. As a result many students do not want to leave home, or in the case of some women students are not allowed by their families to leave home, and would look to enrol in their local institutions. Finally, proponents of vouchers argue that providing vouchers to students can have a psychological effect of making them more aware of their programme and

institution choices, and the value of higher education in general, and that by not taking advantage of the vouchers made available to them, they are in effect wasting resources or “leaving money on the table.” While this study did not uncover any empirical evidence to support this claim the general feedback from students was that vouchers could instil a greater sense of control over their higher education, provided the voucher entitlements and any associated criteria was clear and that a central depository was available which would allow students to make informed decisions about what funds were available to them and where they could spend them. There was also a general consensus amongst the students that this information could make them more aware of the government’s strategic priorities and labour market requirements if voucher numbers and values for specified courses and programmes were aligned accordingly.

## **5.4.2. Enablers (Constraints)**

### **5.4.2.1. Funding**

While indirect funding to higher education institutions and student choice are fundamental features of the mechanics of distributing public funds under a voucher system, other key elements need to be considered as well. These could be categorized as price and quantity factors. Price factors would address the value of vouchers and how these may be differentiated according to subject and programme costs, programme levels and durations, and institution types, public vs. private. Quantity factors would address which students would be eligible for vouchers. For UAE Emirati students this could mean students leaving school who have not previously enrolled in a higher education institution or it could also be extended to all UAE Nationals regardless of their age. For expatriate students a decision would need to be made whether to extend voucher funding to these students. Given that the development of the UAE depends significantly not only on having a well-educated citizenry but also a well-educated expatriate workforce, extending voucher funding to expatriate students may be a consideration, and may become more so if income tax for expatriates is introduced. At present the UAE does not assess any income tax, however should that ever change then extending the benefit of free or subsidized education to expatriates could become a more compelling argument. In considering these price and quantity factors one needs to examine how this would impact government control, not only on containing costs but also the government’s

role of steering education. Having no limit in place for the number of vouchers driven by student demand commits the government to an open-ended expenditure that would most likely not be sustainable. Having programme offerings determined largely by student choice could result in under enrolled programmes and subjects that are of strategic importance to the nation. For universities having revenues determined largely by student choice leaves them subject to the potential volatility of funding from one year to the next and impacts their level of certainty for institutional planning. Governments could address these issues by limiting the number of vouchers issued, or by varying levels of support from one year to the next, or by targeting vouchers for specific programmes and subjects, however this could go against the principle of student choice and widening and increasing participation that voucher funding is purported to support and would require the government to make decisions as to who would be eligible for voucher funding. The right balance would need to be struck between student choice (market forces) and government oversight.

The issue of “top-up” fees was another theme that was addressed through the interviews. These fees could be paid by the local emirates on behalf of their students and could serve as an additional source of revenue for the federal government to help offset federal funds that find their way to private and Emirate-funded universities if voucher funding and student choice is opened up to all institutions. The responses were mixed whether this would be supported by the local emirates as those emirates with fewer resources were thought to be reluctant to make this additional contribution while the richer emirates of Abu Dhabi and Dubai, with their recently established education authorities, were thought to use their resources to invest in their own institutions rather than to make additional contributions to the federal government.

Finally a fee-for-service contract may need to supplement the price and quantity factors within a voucher funding scheme. As currently part of the per student funding scheme for federal higher education institutions within the UAE, this type of contract could also be part of a voucher funding scheme to fund specific services or programmes such as a medical school or other expensive programmes, the provision of postgraduate education, and the undertaking of research. Under such a contract funding would be based explicitly on what a university would deliver for



the funding received and what performance indicators would be used to measure the deliverables.

#### **5.4.2.2. Physical Facilities and Infrastructure**

Planning for physical facilities and infrastructure would most likely be unstable and impractical under voucher funding given the volatility of funding should a sudden shift in enrolment occur. Higher education institutions may be reluctant to invest in new facilities or undertake necessary upgrading given this level of funding uncertainty. A common theme expressed was that a separate strategy for funding facilities and infrastructure should be provided outside of voucher funding.

Within the UAE there is a considerable variance amongst higher education institutions on how facilities are provided as well as who is responsible for utility costs. Within some emirates, primarily Abu Dhabi, Dubai and Sharjah, facilities are provided by the local emirate, and in some cases the utilities are also covered by the local emirate. A further variance is that all federal institutions are required to have separate facilities for male and female students. For effective competition amongst institutions, as proposed under a voucher funding scheme, it is necessary that a level playing field exists and that all institutions are competing under the same conditions, not only to ensure fairness but necessary to ensure the full benefits of competition can be realized.

#### **5.4.2.3. Geographical Access**

The issue of equitable access of higher education for all students is also impacted by geographical location. Within the UAE there are sparsely populated areas, such as the Western Region, where students do not have access to education facilities comparable to their urban counterparts. To address these inequities students could be transported to urban settings and access the housing that a number of universities are providing. Funding providing by way of voucher would need to be supplemented for these additional services. Conversely, governments could establish universities in remote areas that could offer specialized programmes, in addition to core programmes, providing greater access to students in addition to spurring on economic and social development in these remote areas. Students

from outside these remote areas interested in the specialized programmes would also need to be provided with additional funds for transportation and accommodation; this could mostly likely be provided through a supplementary fund in addition to the basic voucher.

#### **5.4.2.4. Administrative Requirements**

The collection and analysis of data were identified as primary administrative tasks associated with a voucher funding scheme. This would entail tracking the credits or semesters enrolled and completed by individual students along with the various voucher values assigned to different subjects and programmes. The tracking would not only be from semester to semester and programme year to programme year, but also for transfers between programmes and institutions should students decide to change their choice of programme or institution. While some higher education administrators were cautious about the possible additional administrative work this would require a common response was that this information should be readily collectable within the universities' information systems. From the government officials viewpoint it was acknowledged that a central depository for the collection and analysis of this student funding data would be required given that students could be transferring from one institution to another and that there would need to be central oversight to ensure consistency in applying data standards and collection. The Center for Higher Education Data and Statistics (CHEDS) within the Ministry of Higher Education and Scientific that was recently established as the national body for the collection, analysis and reporting of data on higher education in the UAE was seen as the logical body to support this data collection and analysis for voucher funding.

Data audit was another primary administrative task identified to support a voucher funding scheme given that if funding would be based on the number of students, differentiated by programme and degree type, then this data would translate into money, hence the need for an audit function to ensure the data provided by the universities was accurate. For the current per student funding scheme the federal government utilizes the State Audit Institute (SAI) to audit student enrolments. Whether the SAI would be the appropriate body to provide this audit function, or

whether this function would better be incorporated under the remit of CHEDS or another agency would need to be determined.

Finally there was a caution issued about implementing a voucher system too quickly, stressing that sufficient time and attention needs to be given to ensure that the administrative requirements are properly thought out.

#### **5.4.2.5. Governance Body**

Funding under a voucher scheme, like all other funding schemes, cannot be open-ended. If the total funding is fixed then the variables available to the federal government for control are the value of the voucher and the number of students eligible for vouchers. To effectively balance the distribution of students by institution and by programme and subject to meet the overall development needs of the nation requires a national planning and coordinating role. This role appears to fall under the remit of the Ministry of Higher Education and Scientific Research however it is questionable whether this role is being fulfilled. For the current per student funding scheme a Higher Education Coordinating Council was established to provide oversight and governance. The membership of this council is comprised of the senior leadership of the three federal universities so it is questionable whether this body is able to independently assess its performance or to represent the needs of its member's respective universities along with the needs of the nation. One may need to look to other countries for examples for the planning, oversight and coordination of funding schemes amongst higher education institutions. In a number of countries these roles lie not within a ministry but rather to a semi-autonomous body that is independent of a single ministry.

#### **5.4.2.6. Cultural and Organizational Considerations**

While much of the discussion of a voucher funding scheme has focused on the mechanics and processes associated with its implementation one should also consider the potential impact of the local culture of the UAE. This could especially relate to increased entrepreneurial activities that institutions may undertake in their quest to become more competitive and market orientated under voucher funding. The use of alumni, for example, to help recruit students and to raise funds, while a

common practice amongst universities in the west, is still a relatively foreign concept with government funded institutions in the UAE. Alumni development and other entrepreneurial activities need to guard against being insubordinate to the leadership and to respect the local customs and practices. Where appropriate the concept of partnering, as in Islamic finance, may need to be followed whereby partners agree upon a profit rate for a venture, rather than the concept of charging interest for funds provided.

### **5.4.3. Transition**

When comparing the current per student funding scheme adopted by the UAE federal government to voucher funding one may question if there is any difference. Some authors contend that any funding system that is driven by student enrolment is in effect a voucher system. While the resulting funds provided could be similar under a per student funding system and a voucher funding system proponents of voucher funding argue that the philosophy and possibly the psychological effects of voucher systems influence students to be more aware of the funds provided for their education and to be more serious about their higher education, and for institutions to become incentivized to improve their efficiencies and quality.

Given that the current per student funding scheme was recently introduced, and given the expansive change that has occurred in the UAE over such a short time, a number of respondents questioned if the UAE was mature enough to undertake this transition and whether more time was needed for policy discussion on the objectives of higher education and the resources required and how best funding schemes should be derived not only for teaching and learning but for research and knowledge transfer as well. Questions were raised on the need to have an operational framework in place to support a voucher funding scheme, including a nationwide quality assurance programme, a central data unit responsible for the collection and audit of unit-based information for each student, and a central agency responsible for the coordination and governance of the voucher funding scheme, bringing together the interests of the Ministry of Higher Education and Scientific Research, the Ministry of Finance and Industry, the Ministry of Presidential Affairs and the individual Emirates and their respective higher education institutions. The need to devote sufficient time and discussion on a voucher plan implementation was

highlighted to ensure such a scheme was fully understood not only by the higher education institutions but by the government officials responsible for its implementation. The standard of school leavers was another issue highlighted and whether efforts to raise these standards should be undertaken first before considering the implementation of voucher funding.

Given these complexities associated with the implementation of a voucher funding scheme a common response was to consider a pilot project for voucher funding with selected institutions as well as phase in periods, with identified timelines and processes for transitioning between the two funding schemes.

## **6. Chapter Six: Conclusion and Recommendations**

### **6.1. Introduction**

Through the research conducted the arguments for vouchers have been found to be largely based on ideologies and theories rather than on evidence of realized benefits. Arguments for vouchers often align with the claim that such schemes would promote greater student access and would foster improvements in efficiencies and quality as institutions would be competing to be responsive to the needs of students. In arriving at a conclusion to this research project a first step was to return to the fundamental question of what the UAE is trying to do with its higher education system and how a voucher funding scheme would fit into this plan. As stated in the introduction the market forces that have driven the rapid development of the UAE economy could also be seen as the government's attempt to drive competition and efficiencies within its higher education system. Putting funding in the hands of students would require the federal higher education institutions to be more responsive to student choices and thereby require the institutions to offer programmes and services of a higher quality than their competitors in order to attract more students.

Increased awareness for both students and their parents of the cost of high education could also be seen as another potential consideration of the UAE government for implementing voucher funding. While the UAE constitution guarantees its citizens free access to primary, secondary and tertiary education, along with a host of other social benefits, there is also the realization that this type of 'welfare state' will not be sustainable in the long run and that citizens should become more aware of the costs of services made available to them and should hold some accountability for them. Voucher funding, proponents argue, has a psychological effect of showing the investment the government is making on behalf of the students, money that could be 'left on the table' if not utilized, thereby encouraging the aspect of student choice and advancing the government policy of increasing participation.

The desire of the UAE government to transform its economy into a model where growth is driven by knowledge and innovation was identified as a further consideration for voucher funding of higher education. A dominant view today is that

a knowledge economy, characterized by a large degree of individualism, will result in higher education institutions facing increasing student demands for diversity in educational services, not just for the years after high school, but increasingly for lifelong learning. Proponents see vouchers as the mechanism to facilitate student choice for education diversity; that vouchers could ultimately enable students to tailor their individual learning programmes through a combination of different faculties and institutions. As such vouchers could be seen as a mechanism for the UAE government to facilitate increased education diversity to support its pathway to a knowledge economy.

This leads back to the research question of the consequences, intended and unintended, of implementing a voucher system for funding higher education within the United Arab Emirates. From the research findings one can construct what a likely voucher funding scheme for higher education within the UAE would entail, and whether such a funding scheme would be workable or not. However the findings also point out that there are a number of fundamentals that the UAE government needs to address before considering voucher funding or other market-based funding models. As well, a common argument is that a certain degree of government regulation is necessary for markets to operate effectively. The conclusion therefore addresses both the implications of voucher funding of higher education within the UAE as well as the likely prerequisites the UAE government needs to consider for market-based funding models and the potential recommendations for a regulatory framework.

## **6.2. Implications of Voucher Funding of Higher Education in the UAE and Conclusion**

To begin one can look at the existing systems and processes in place that could support a voucher funding scheme within the UAE. Under the current per student formula funding scheme (see Appendix 4) the UAE government has already established a mechanism for defining funding values differentiated through the use of ratios and weightings by programmes, by degree type (Bachelor or Diploma, for example) and whether they are laboratory or non-laboratory based programmes. In effect separate funding levels have been established between Bachelor and Diploma degrees for four subject groups: preparatory subjects, other subjects (non-

laboratory), laboratory based science subjects and medical subjects. These differentiated funding levels could therefore be used to establish different voucher values for different programmes and subjects, providing higher funding values at the Bachelors level and lower at the Diploma level; higher funding values for medical and laboratory subjects and lower funding levels for non-laboratory and preparatory subjects. These differentiated voucher values could be established to not only recognize the different costs incurred with delivering the different types of programmes and subjects but could also be set as an incentive for students and universities, and as a means of government steering. Lower funding values for preparatory subjects could be seen to incentivise students and universities to spend less time in these subjects. Likewise higher funding values in laboratory subjects such as science and engineering could be seen as incentives to students and universities, and as a steering means for the UAE government, for upward progression into these programmes.

It is apparent that voucher funding would not be practical for the provision of facilities or infrastructure given the substantial investment required and the risk of funding shortfalls given sudden enrolment shifts. This does not appear to be an issue within the UAE given the history of local emirates providing required facilities and related infrastructure. The funding of facility utility costs however would need to be addressed, whether to include in the base funding of voucher values or not, to ensure a level playing field for all institutions, given that some local emirates now cover these costs.

Additional funding over the basic voucher values would be required where it was deemed more cost effective to extend transportation services and provide necessary week day accommodation over building new facilities. In such cases a supplementary voucher could be provided to students whose geographical location would require them to avail of these transportation and accommodation services to access the institutions offering their chosen programmes.

While some government steering could be achieved through the provision of higher voucher values for strategic programmes it is unlikely that this alone can realistically allocate the resources needed to address the specific strategic priorities of the



government. The UAE government would likely need to consider fee-for-service contracts as the funding methodology for research and national strategic priorities. Under this approach funding would be based upon a contract between the federal government and the university that explicitly outlines the deliverables that the university would provide and the funding that would be received in return. Any performance indicators that a university would need to meet to receive the funding would be part of the contract along with any penalties that would be applied if the contract was not fully met. The term of the contracts should be sufficient to allow universities to plan with a reasonable level of stability, hence a term of three to five years is proposed; with a five year term for research funding deemed appropriate.

Turning to the issue of voucher eligibility, given that the UAE provides free education at all three levels to its citizens, vouchers could be made available to national students leaving school who have not previously enrolled in a higher education institution, however vouchers could also be extended to all UAE Nationals regardless of their age. For expatriate students a decision would need to be made whether to extend voucher funding to these students. Given that the development of the UAE depends significantly not only on having a well-educated citizenry but also a well-educated expatriate workforce, extending voucher funding to expatriate students may be a consideration, and may become more so if income tax for expatriates is introduced. At present the UAE does not assess any income tax, however should that change then extending the benefit of free or subsidized education to expatriates could become a more compelling argument.

Voucher eligibility also raises the issue of balancing life-long learning within budget constraints. As the UAE's current per student funding scheme could be adapted to establish voucher values, the initial programmes to be funded by vouchers would be for Bachelor and Diploma programmes. As an incentive for students to complete their studies within a reasonable time, only the minimum number of credits to complete these programmes would be funded through vouchers. If additional time was requested to complete a degree, or additional degrees were sought, then these would need to be paid for by the students themselves. Postgraduate education would fall outside of the voucher funding scheme and would need to be covered under the fee-for-service contracts previously discussed.

Voucher eligibility in regard to which institutions students could encash their vouchers gets at the heart of the proposed benefits of vouchers: student choice and competition amongst the higher education institutions. To maximize student choice vouchers should be eligible at all higher education institutions within the UAE. This would include public, private, emirate owned or foreign owned institutions. These institutions however would need to meet certain criteria to be eligible to participate, such as implementing common administrative systems to track and audit individual student record data; the most critical criteria however being adherence to a quality and improvement system, described later in Section 6.2. The inclusion of private universities as eligible choices under a voucher funding scheme again raises the issue of budget constraints given the additional institutions to be funded by the federal government, along with the issue of public funds going into private institutions. One option to alleviate this additional budget pressure on the federal government would be to limit the value of vouchers available for private institutions. Another option would be to look to the local emirates to provide additional “top-up” funding. This additional top-up funding could cover the difference between fees assessed by private institutions, emirate owned institutions and foreign owned institutions and the reduced federal voucher value. Each individual emirate could provide these supplementary vouchers to the respective citizens of their emirate. As discussed in Chapter 5 the UAE federal government does not have its own source of revenues, given the absence of an income tax system, and is reliant on the contributions from the individual emirates for federal funds. Increasingly the individual emirates, especially Abu Dhabi and Dubai with their recently established education authorities, are looking to invest first in their own institutions rather than to make additional contributions to the federal government. The individual emirates may therefore be more receptive to providing supplementary vouchers directly to their resident citizens rather than providing additional contributions to the federal government.

Additional implications for voucher funding in the UAE include administrative systems, a data collection and data audit unit and a quality assurance and improvement regime. As voucher funding would require the tracking of individual student credits and their associated funding values based on programme and subject enrolment, institutions would need to have common administrative systems. The three federal higher education institutions, along with the Center for Higher

Education Data and Statistics (CHEDS) all utilize the same financial and student information systems (formerly known as 'Banner') so this should facilitate their student credit tracking and funding requirements. Other private, emirate owned or foreign owned institutions however would need to align their financial and student information systems accordingly. CHEDS, within the Ministry of Higher Education and Scientific Research, was recently established as the national body for the collection, analysis and reporting of data on higher education in the UAE and would be the logical choice for a central depository for data to support a voucher funding scheme. Data audit of enrolments for the current per student funding scheme is undertaken by the State Audit Institute and it would appear reasonable that this entity would also provide the data audit services under a voucher funding scheme. The Commission for Academic Accreditation (CAA), a unit within the Ministry of Higher Education and Scientific Research, is seen as the entity to deliver the quality assurance and improvement system called for in a voucher funding scheme to ensure the participating institutions, the institutions open to student choice, meet stated quality standards and are focused on institution-level quality assurance and improvement processes and outcomes measures. Further discussion on the roles and responsibilities that both CHEDS and the CAA would provide under a voucher funding scheme is contained in Sections 6.3.2 and 6.3.3.

In summary a voucher funding scheme for higher education within the UAE could be constructed as follows:

- Voucher funding levels would be differentiated between Bachelor and Diploma degrees for four subject groups: preparatory subjects, other subjects (non-laboratory), laboratory based science subjects and medical subjects. The mechanism for defining funding values differentiated through the use of ratios and weightings by programmes and degree type under the current UAE per student funding scheme could also serve to establish the voucher values.
- Only the minimum number of credits to complete the Bachelor and Diploma programmes would be funded through vouchers. If additional time was requested to complete a degree, or additional degrees were sought, then these would need to be paid for by the students themselves.
- Postgraduate education would fall outside of the voucher funding scheme and would need to be covered under fee-for-service contracts.

- Fee-for-service contracts would also be utilized for research and national strategic priorities. Funding would be based upon a contract between the federal government and the university that explicitly outlines the deliverables that the university would provide and the funding that would be received in return. Any performance indicators that a university would need to meet to receive the funding would be part of the contract along with any penalties that would be applied if the contract was not fully met.
- Initially vouchers would be made available to national students leaving school who have not previously enrolled in a higher education institution, regardless of their age. Additional vouchers could be considered at a later time for continued life-long learning. Vouchers for expatriate students could also be considered at a later time given that the development of the UAE depends significantly not only on having a well-educated citizenry but also a well-educated expatriate workforce. The introduction of an income tax system for expatriates could also support extending voucher funding to expatriate students.
- The provision of facilities or infrastructure would fall outside of voucher funding given the substantial investment required and the risk of funding shortfalls given sudden enrolment shifts. The continued practice of local emirates providing required facilities and related infrastructure would be maintained.
- Supplementary vouchers would be provided to students whose geographical location would require them to avail of transportation and accommodation services to access the institutions offering their chosen programmes.
- To maximize student choice vouchers would be eligible at all higher education institutions within the UAE. This would include public, private, emirate owned or foreign owned institutions, although voucher values at private institutions could be reduced given their ability to assess tuition fees. These institutions however would need to meet certain criteria to be eligible to participate, such as implementing common administrative systems to track and audit individual student record data; the most critical criteria however being adherence to a quality and improvement system.
- To address the additional funds required to extend voucher funding to private, emirate owned or foreign owned institutions “top-up” funding arrangements would need to be negotiated between the federal government and the local emirates. This additional top-up funding could cover the

difference between fees assessed by private institutions, emirate owned institutions and foreign owned institutions and the reduced federal voucher value. Each individual emirate could provide these supplementary vouchers to the respective citizens of their emirate rather than increasing their contributions to the federal budget.

Having constructed a probable voucher funding scheme for the UAE this brings us to the question of whether such a scheme would be workable and would deliver the results expected by the government. On the issue of student choice and access to the multiple higher education institutions within the UAE the constraining issue appears to be more a matter of students being adequately prepared for admission into the institutions. Each of the three federally funded higher education institutions within the UAE offer foundation, or bridging programmes, in English, mathematics and related subjects to bring the skill level of school leaver students up to university entry standards. As noted, within the emirate of Abu Dhabi the Abu Dhabi Education Council (ADEC) reported that at the start of the 2012-13 academic year only 12 per cent of school leavers were able to go straight on to university degree courses, with the rest needing remedial lessons in English and other subjects first (ADEC 2013). New School Models were introduced in 2010 to address this deficiency as well as to target a shift from an emphasis on content ("rote learning") to one of critical thinking and an encouragement to continue learning throughout life. So while a voucher funding system could provide the funds for students to attend the programmes and institutions of their choice this could be a moot point if the students are not adequately prepared and do not meet the institution's admission requirements. The need for the federal higher education institutions to offer these foundation, or bridging programmes, also has significant funding implications. The HCT, for example, allocates approximately one-third of its budget towards foundation programmes. Reducing the need for these programmes would free up additional funds for higher education. Arguments have also been made that these costs should not be funded by higher education in the first place, that they should be funded by the Ministry of Education as part of secondary schooling costs.

The claim that vouchers promote improved quality and efficiency through competition was identified as one of the reasons why the UAE has considered applying market forces to fund higher education, in particular to the three federally

funded higher education institutions. From the research conducted in this project there was no evidence that a voucher funding system would deliver the quality and efficiency improvements sought by the federal government. On the contrary a number of issues were identified that could lead to a misallocation of resources. While the UAE government could provide higher voucher values for programmes supporting national priorities, along with specific fee-for-service contracts, this is no guarantee that students would enrol in the numbers required. Having institutions respond directly to student demand could result in an over enrolment in programmes popular with students based on current economic cycles but not necessarily enrolled in the specialized education to support the future growth sectors of the nation, as spelled out for example in the UAE Vision 2021 and the Abu Dhabi Economic Vision 2030. As well programmes of high cultural value but low enrolment could be at risk if simply left to student demand. The loss of cultural identity has been raised as a concern by UAE leaders and citizens given the rapid development of the country and the large proportion of the population comprised of expatriates. Universities within the UAE, along with other cultural institutions, are often viewed and tasked with the responsibility of being a primary depository of the country's history and culture.

A fundamental criterion for the operation of any effective market is consumer information. For voucher funding both students and parents require sufficient and reliable information about programmes and services to support their choice and decision making. Currently no central depository has been established although CHEDS is identified as an entity that could potentially provide information on all institutions such as course and programme offerings, enrolment capacities, student life amenities, graduate employment statistics, and the like to assist students and their parents with their institution choice. CHEDS would need to be fully functional as a central depository however before a voucher funding system in the UAE could be implemented.

A further issue of implementing voucher funding within the UAE would be the risk of an open-ended financial commitment as the government would need to fund all eligible institutions based on the students they enrolled. As the Australian review of voucher funding for higher education concluded (referenced as the Bradley Review Report in the Literature Review Chapter) that while competition for students could

lead to improvements in institutional efficiency and responsiveness to students, a market based funding scheme also has the potential shortfalls of an open-ended financial commitment by the government and the potential misallocation of resources in response to student demand versus the requirements of the workforce. Similar concerns were expressed by Brown (2013, p. 171) in his writings on the marketization of UK higher education where he states “that some competition for students and research income leads to improvements in efficiency and responsiveness. But if this is carried too far it leads – ironically, given the justification for introducing competition in the first place – to waste and inefficiency.” The UAE government would therefore need to place a limit on either voucher values or the number of students it could fund, in either case limiting the degree of student choice available.

While the UAE government, as any government, would need to guard against an open-ended financial commitment characteristic of voucher funding, it would also need to ensure that adequate levels of funding were available. In referencing Brown (2013) and his discussion on the UK experience, he states that “market competition is no substitute for adequate levels of funding” (Brown, 2013, p. 172). The argument is put forward that sufficient resources need to be available to support core research initiatives as well as sustaining quality student learning experiences, such as the relationship of staff to students, curriculum and assessment, infrastructure for teaching and learning and student support services (Brown, 2013, p. 151). The history of implementing the current per student funding scheme illustrates that adequate levels of funding were not available to fully implement that funding scheme. While the Cabinet approved the per student formula funding scheme not all of the elements have been implemented to date, namely the fee-for-service contracts and the performance contracts and incentives. As well there has been no regular and systematic updating of academic salaries and benefits to ensure current benchmarking as called for in establishing the per student funding values. According to officials within the federal Department of Finance the funding levels for universities, and all other public expenditure, will not be altered until the fall of 2014, at which time new funding levels are to be established for a set number of years. While the proposed ‘top-up’ funding could potentially provide the additional resources required this would need to be weighed against the additional funding requirements brought on by the inclusion of the non-federal institutions into the

voucher funding scheme as well as the risk of not being able to secure such funding arrangements between the federal government and the local emirates.

Voucher funding, as a market model, strives to deliver efficiency in the economic sense. Left unchecked however this can lead to a drop in quality. Student choice is not always based on selecting quality, and in the absence of a quality assurance programme, students could be choosing programmes or institutions that had lower standards and were easier to access, which could result in a “race to the bottom”. Brown (2013) in addressing the requirement for effective monitoring and regulation of quality, highlights that under market based funding there may be greater resourcing differences amongst institutions leading to greater differences in quality assurance practices. A strong external regime, attending not only to adequacy or resourcing, but to how institutions use these resources, with such oversight applied to all providers of higher education, is proposed by Brown (2013, p. 176) to ensure at least minimum standards of student learning and achievement. The Commission for Academic Accreditation (CAA), a unit within the Ministry of Higher Education and Scientific Research, has been identified as the logical unit to lead the delivery of such a quality assurance and improvement regime. However the CAA's current focus and expertise is on quality assessment, not quality assurance. The CAA would need to upgrade its functionality therefore before it could provide the required quality assurance and improvement regime required to support voucher funding in the UAE.

The most significant impediment in implementing a voucher funding scheme in the UAE is seen as a governance gap. In the absence of a centralized planning and coordination function individual higher education institutions have been left to themselves to develop their programmes according to their strategic plans and priorities and not necessarily those of the nation. This is illustrated by the example of the formation of the Higher Education Coordinating Council that was established in 2008 to govern the new per student funding scheme. The membership of this council is comprised of the senior leadership of the three federal universities so it is questionable whether this body is able to independently assess its performance or to represent the needs of its member's respective universities along with the needs of the nation. A further conflict, until recently, was that the Minister of Higher Education and Scientific Research was also the Chancellor of each of the three



federal universities. As Chancellor he was responsible for the optimal development of each university while as Minister he would be responsible to make decisions that were in the best interest of the nation. (This conflict was eliminated in March, 2013 when the Minister of Higher Education and Scientific Research was appointed to a new cabinet post).

The need for independence, as referenced by Brown (2013), calls for a regulator with a wide remit to advise and report on the value being obtained from all resources invested in universities, and how the value can be increased, with complete independence from government, reporting directly to Parliament (Brown, 2013, p. 177). The intent here is to have a body that could provide a well-grounded and independent view of the higher education system's performance and requirements that would not be unduly influenced by either the government or the higher education sector. The UAE would need to introduce such a body before considering the implementation of a voucher funding scheme.

In conclusion, while a voucher funding scheme could realistically be constructed for the UAE, and while it would increase the awareness of both students and parents of the contribution the government is investing on behalf of them, such a voucher system would not be workable given the impediments identified, namely the absence of a unit to provide both students and parents sufficient and reliable information about programmes and services to support their choice and decision making; the absence of a strong quality assurance and improvement regime; the lack of funding identified to implement a voucher funding scheme given the inclusion of non-federal institutions and the absence of agreements between the federal government and local emirates for top-up funding; and most importantly, the existence of a governance gap and the need for an independent body to oversee, coordinate and plan the development of the higher education system in the UAE. The UAE government therefore needs to consider a number of prerequisites before considering not only voucher funding specifically, but market-based funding models in general. These are discussed in the next section. While these prerequisites are tailored for the UAE context the content would also be relevant to other countries considering market-based funding models for higher education.

## **6.3. Recommendations for Prerequisites for Market-based Funding Models for the UAE**

### **6.3.1. Governance Body**

As previously referenced the governance and oversight of the higher education system falls under the remit of the Ministry of Higher Education and Scientific Research, whose mandate includes (MOHESR, 1994):

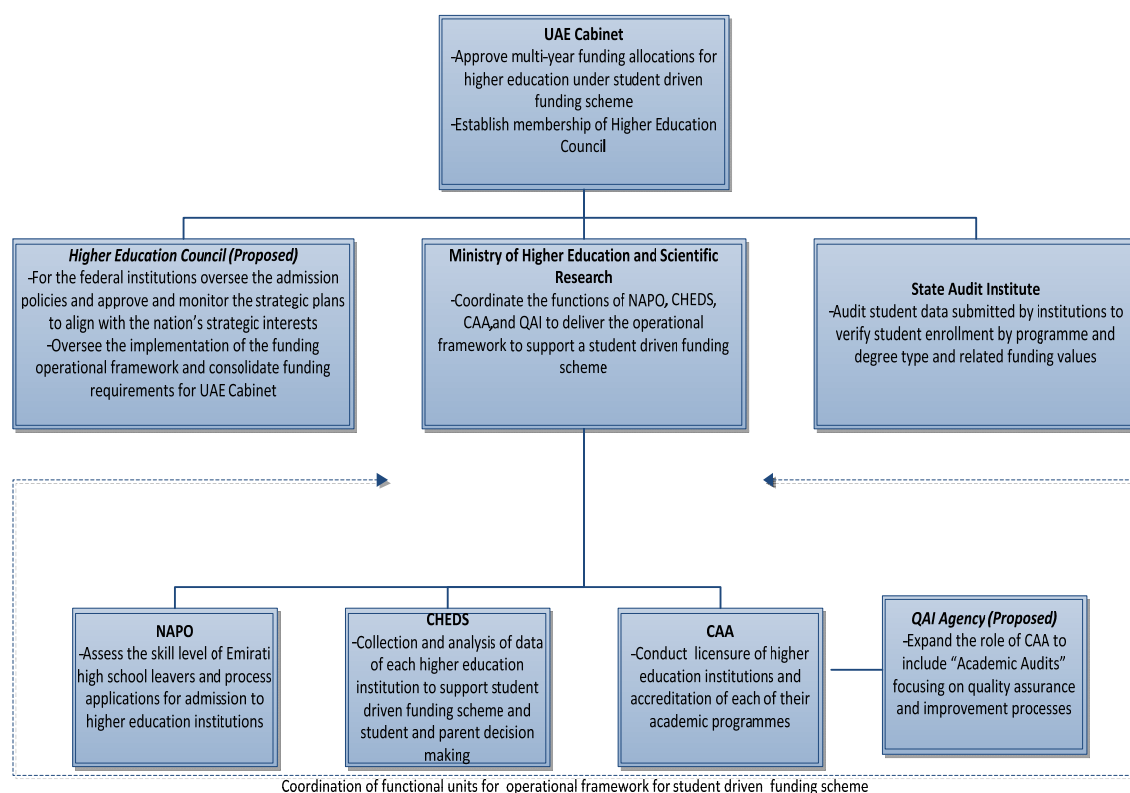
- Planning the higher education and research systems in the UAE and defining the required types, sizes, majors and geographic distribution of institutions in light of the overall development needs of the country
- Coordinating and integrating all the budget needs for all Higher Education institutions and research
- Coordinating and integrating academic majors and degrees and programmes offered by all higher education institutions and ensuring their alignment with the overall higher education plan
- Coordinating the admissions policies of the three institutions and the criteria for distributing students between the different academic majors within the three federal institutions.

While the Office of Higher Education Policy and Planning within the MOHESR was established in 2004 to provide this role, the introduction of the new per student funding scheme in 2008 saw this role effectively diminished and replaced with the Higher Education Coordinating Council. As the membership of this council is comprised of the senior leadership of the three federal universities it is questionable whether this body is able to independently assess its performance or to represent the needs of its member's respective universities along with the needs of the nation. As such it appears there is currently no unit within the MOHESR that is providing this planning and coordination function to ensure that higher institutions are interacting to deliver the programmes needed by the UAE leaving the individual higher education institutions to themselves to develop their programmes according to their strategic plans and priorities and not necessarily those of the nation. To correct this gap in governance the following recommendations are made.

## **Recommendations**

In keeping with best practices from other countries such as England, New Zealand, Ireland, Hong Kong, and within the Middle East region, Bahrain, establish a semi-autonomous body such as a Higher Education Council outside of the Ministry of Higher Education and Scientific Research to oversee, coordinate and plan the development of the higher education system in the UAE. More specifically the Council's role could include, but not be limited to, approving and monitoring the strategic plans of each federal higher education institution to ensure these plans are aligned with the nation's strategic priorities; establishing the admission requirements for each institution and the corresponding enrolment targets; overseeing the implementation of funding formulas and assessing and consolidating the funding needs of the individual universities for presentation to the Cabinet. The Cabinet as such would need to establish the membership of this Council which most likely would include representation from the Ministry of Higher Education and Scientific Research, the Ministry of Finance and Economy and the Ministry of Presidential Affairs. The proposed UAE higher education governance reporting structure is shown in Figure 12 below:

**Figure 12: Proposed UAE Higher Education Governance Reporting Structure**



### 6.3.2. Central Depository Requirement

Accurate and consistent unit-based information for each student, and potential student, within the UAE would need to be collected and maintained on a central system as a key administrative element to provide accurate information on programme costs. This would be required to support the determination of funding values as well as determining student eligibility. With funding based on the number of students, likely differentiated by programme and degree type, this various data would translate into money; hence there would also be a need for an audit function to ensure the data provided by the universities is accurate. These data collection and audit requirements could logically be argued to be governed centrally by the federal government to ensure consistency and compliance amongst the higher education institutions.

In addition to having a central depository for managing funding information the need was also identified for a central depository on institutional data to support student and parent choice and decision making. Students along with administrators and government officials responded to the need for some central depository that could provide information on all institutions such as course and programme offerings, enrolment capacities, student life amenities, graduate employment statistics, and the like to assist students with their institution choice.

### **Recommendations**

The Center for Higher Education Data and Statistics (CHEDS) within the Ministry of Higher Education and Scientific recently established as the national body for the collection, analysis and reporting of data on higher education in the UAE would be the logical choice for a central depository for data to support a voucher funding scheme. Article 2 of Decree No. 347/Year 2011 that established CHEDS defines the roles and responsibilities of CHEDS as follows (CHEDS 2011):

- “1. Collection and analysis of all information and statistics of each institution of higher education (HEI) (University, College, Institution) in the UAE.
2. Produce and publish annual report on each HEI, through which the performance of each HEI is compared with performance indicators for quality and excellence; to contribute in demonstrating areas of strength in each HEI and describing the required areas for development in its operation.
3. Produce and publish periodic reports on higher education in the country.

The Annual Reports referred to an item No. (2) above aims to realize the following:

- a) Inform decision makers and public of the performance level of each HEI, and enable them to make comparisons among similar educational programs offered by these institutions, and also general comparison among institutions.
- b) Demonstrate the relative position of each HEI in the HE array in the UAE.

c) Demonstrate the degree of consistency of HEI's operation with international norms of quality and the degree to which these norms are realized in the HEI.

d) Direct HEI to the areas which require attention for their improvement, as contribution to the preparation of future development plans in all areas, whether academic, student life, or university environment in general.”

As discussed in an earlier section the National Admissions and Placement Office (NAPO) is responsible for assessing the skill level of Emirati high school leavers and processing their applications for admission to the three federal institutions as well as the Abu Dhabi Centre for Technical and Vocational Education and Training (ACTVET) and for study abroad scholarships. Through the administration of the Common Educational Proficiency Assessment (CEPA) student eligibility is determined for either direct entry into academic programmes or into required foundation programmes. Given the complexities of student eligibility and admission processes, and ensuring these are aligned with the data collection and analysis processes required to support a student driven funding scheme, CHEDS would need to coordinate with NAPO to ensure student eligibility and admissions data would be collected centrally and would form part of the overall data set required to support a student funding scheme. The Ministry of Higher Education and Scientific Research would be responsible for this coordination as both units fall within the ministry.

While the collection and analysis of all information and statistics of each higher education institution in the UAE is referenced as a responsibility of CHEDS, the actual audit of this data is not referenced. Under the current per student formula funding scheme the federal government has called upon the State Audit Institute (SAI) to audit the number of students who have enrolled in the three higher education institutions. It would be appropriate for the SAI to continue to perform this audit function.

Finally CHEDS could also act as a clearing house for institutional data to support student and parent choice and decision making. Through its website, and in the producing and publishing of an annual report of each higher education institution as

outlined in the CHEDS decree (Article 2 , item 2) the previously mentioned information on programme offerings, enrolment capacities, student life amenities, graduate employment statistics and the like could be summarized in a consistent format for all institutions within the UAE, thereby assisting students and their parents in their decision as to which higher education institution to attend.

### **6.3.3. Quality Assurance and Improvement System**

As discussed in the Summary of Findings section, the Commission for Academic Accreditation (CAA), a unit within the Ministry of Higher Education and Scientific Research, is responsible for the licensing and accreditation of the three federal higher education institutions along with the private institutions (excluding those operating within the free zones). The need to improve quality and efficiency in response to market forces will likely require a quality assurance and improvement system more focused on institution-level quality assurance and improvement processes and outcomes measures than the current approach based on summative judgements about delivered quality and compliance. In effect a progression needs to be made from “Quality Assessment”, the mechanism or procedures used to determine the extent to which quality exists, to one of “Quality Assurance”, the mechanism or procedures used to assure or measure the level or existence of quality.

### **Recommendations**

Implement a system of “academic audits” where the mechanisms and procedures use by the institutions to assure and measure and to improve the level of quality are evaluated, similar to those in a number of countries, including Australia, New Zealand, England, the U.S. state of Tennessee and the Canadian province of Ontario. Under this system a select manageable number of important issues are set out for audit as opposed to the larger number of issues and requirements called for in an accreditation process. The academic audits abide by a high degree of transparency and a self-study approach that further supports the focus on improvement rather than compliance. The example provided of the Canadian province of Ontario could be used as a guide in establishing such a system.

It would appear rationale to expand the role of the CAA to include academic audits, supported by data collected and analysed by CHEDS.

#### **6.3.4. Funding Policies**

As described in Section 6.2 the funding mechanisms supporting any student driven funding model would need to incorporate both price and quantity factors. Price factors would address funding values and how these may be differentiated according to subject and programme costs, programme levels and durations, and institution types, public vs. private. Quantity factors would address the number of students eligible for funding, taking into consideration admission requirements and the extent to which funding would apply to Emiratis and expatriates. Limits would realistically need to be placed on these price and quantity factors to contain costs otherwise having no limit in would commit the government to an open-ended expenditure that would most likely not be sustainable. It is questionable whether a funding mechanism driven by price and quantity factors alone could realistically allocate the resources needed to address the specific strategic priorities of the government, such as the conduct of research, the provision of postgraduate education or capital intensive programmes such as medicine. In this case a fee-for-service contract, as provided in the current federal per student formula funding scheme, would be the appropriate mechanism to allocate funds for such specific services. Likewise for the provision of facilities and transportation services where supplementary funding outside of the price and quantity factors would likely be required to address the funding requirements for these services. From the higher education institutions within the UAE researched it appears they have the financial and administrative information systems necessary to track and analyse the information necessary to support a student driven funding scheme. Nonetheless concern was expressed that these administrative efforts should not be an overbearing burden. A greater concern expressed was the requirement to have timely funding allocations, given a history of some institutions of a delay in payments placing cash flow constraints on the institutions.

#### **Recommendations**

Under the current per student formula funding scheme (see Appendix 4) the UAE government has already established a mechanism for defining funding values



differentiated through the use of ratios and weightings by programmes, by degree type (Bachelor or Diploma, for example) and whether they are laboratory or non-laboratory based programmes. This mechanism appears appropriate to support a student driven funding scheme. The constraint, as previously discussed, is to have an adequate level of funding while at the same time to guard against potential government budget overruns given that funding values need to be set before demand is known. As such, certain limits will need to be implemented, such as the maximum number of students funded for specific programmes and degree types. The universities themselves could also face budget shortfalls if their projected enrolments, and corresponding funding, fall short. Both governments and universities will therefore need to undertake longer term planning to allow for budget adjustments in future years. The establishment of operating and capital reserves at the university level is a further recommendation to help smooth out any potential budget deficits or surpluses that may occur in any given year.

As discussed it is unlikely that a student driven funding scheme alone can realistically allocate the resources needed to address the specific strategic priorities of the government. As such it is recommended that the funding requirements for research, post graduate education and national strategic priorities, along with the provision of facilities and transportation services, be established by the proposed Higher Education Council (HEC) as this would be the body that would be responsible for approving and monitoring the strategic plans of the federal higher education institutions to ensure they are aligned with the nation's strategic priorities. The HEC would need to identify these research and national strategic priorities and determine how these could most effectively be provided through existing facilities and infrastructure, and if new facilities were required, along with the associated funding requirements. As facilities and infrastructure are currently provided by either the federal government or the local emirates it is essential that the HEC coordinate the planning and provision of these facilities between these governments to ensure the required facilities are developed to accommodate the strategic programmes and initiatives identified. The funding of facility utility costs would also need to be addressed to ensure a level playing field for all institutions, given that some local emirates now cover these costs.

Transportation services would come into the picture when determining how best to coordinate student access from their homes to the institutions offering specific programmes and degrees. One would look to the HEC to undertake a cost-benefit analysis of extending transportation services and providing necessary week day accommodation over building new facilities to determine the most efficient use of facilities before building new facilities, taking into consideration reasonable travel times. Supplementary funding would need to be provided for students that would need to avail of these transportation services to access the institutions offering these programmes.

Fee-for-service contracts are recommended as the funding methodology for research and national strategic priorities. Under this approach funding would be based upon a contract between the federal government and the university that explicitly outlines the deliverables that the university would provide and the funding that would be received in return. Any performance indicators that a university would need to meet to receive the funding would be part of the contract along with any penalties that would be applied if the contract was not fully met. The term of the contracts should be sufficient to allow universities to plan with a reasonable level of stability, hence a term of three to five years is proposed; with a five year term for research funding deemed appropriate.

Finally funding disbursements under any student driven funding scheme would need to be made in a timely manner so as not to negatively impact the cash flow requirements of the universities. For basic funding it is proposed that actual student enrolment numbers from the previous semester be used to fund allocations for the upcoming semester and that any variances between the two counts be adjusted in the next semester funding allocation. This will enable funding levels to be known in advance and funded according to a set schedule and will allow the universities to plan their cash flow requirements accordingly. For fee-for-service contracts, as these are proposed to be negotiated for a three to five year term, the funding disbursements should also be spelled out in the contracts based on the specific research and strategic initiative requirements.

### **6.3.5. Implementation Plan**

From the previous recommendations the need to have an operational framework in place to support a student driven funding scheme has been highlighted, including a nationwide quality assurance programme, a central depository unit responsible for the collection and audit of unit-based information for each student, and a governance structure to coordinate and plan the development of the higher education system in the UAE. A critical path will need to identify the sequencing of the steps to implement the operational framework and the timelines required. A further issue is the standard of school leavers and the government efforts and timelines to raise these standards to the level where school leavers could be direct entrants into the universities.

#### **Recommendations**

Addressing the governance gap should be the first priority. The establishment of a higher education council as discussed in the earlier recommendation would provide the mechanism for overseeing the implementation of operational framework to support a student funding scheme and would be the entity with the authority to steer the funding scheme and to make the necessary decisions. While it would be up to this higher education council to develop the specific implementation plan and timelines, the critical path should include the processes for implementing the operational framework, starting with the implementation of a central depository unit responsible for the collection and audit of unit-based information for each student. This would likely be the longest lead-time item however with the establishment of CHEDS and the State Audit Institute a number of processes and systems are currently in place that could be expanded upon to support the data collection and audit functions. The implementation of a Quality Assurance and Improvement system would follow, looking to expand the role of the CAA to include academic audits, supported by data collected and analysed by CHEDS. Establishing agreements on policies and funding would entail setting the various funding levels and establishing the agreements with each of the federal universities for fee-for-service contracts and associated performance indicators. Lastly a communication plan would need to be developed notifying the higher education institutions and the prospective and continuing students of the proposed funding system. While some of these tasks would need to be done in a sequential order as listed, it is not to say that some could be done concurrently. Again, as the first step would be the

establishment of the higher education council as the governance body, this entity would have the charge of determining the most effective implementation plan and the time required for each of these tasks.

Finally the coordination of admission criteria for the three federal universities should fall under the remit of the higher education council. This would ensure that the admission policies of the three institutions would complement, and not compete, with each other. The existing National Admissions and Placement Office (NAPO) would continue as the central entity for all admissions ensuring the distribution of students in the most effective manner and in alignment with the nation's overall higher education strategic priorities. The higher education council, in establishing the admission policies of the federal institutions, should also examine the issue of the entry standards of high school leavers. Given that each of the federal universities invests heavily in foundation programmes to bring the level of school leavers up to university entrance standards (in the case of the HCT, this being approximately 30 per cent of its budget) it may be more efficient to have these foundation programmes consolidated into one of the universities (such as the HCT) or to have programme purpose institutions, such as community colleges, established to offer these programmes. The higher education council would also need to work in coordination with the local emirates that have implemented school standards upgrading programmes, such as Abu Dhabi's New School Model, to ensure that these programmes are aligned with the entry requirements of the universities.

#### **6.4. Originality, Significance and Limitations of the Study**

As stated, the implementation of vouchers as a scheme of funding higher education has been very limited, with claimed benefits being for the most part theoretical rather than empirical. In the case of the UAE, limited research has been conducted into the study of implementing voucher funding for higher education. This case study was looked upon to develop generalizations and pathways that the UAE government could utilize when considering the degree of market competition to implement for funding higher education within the UAE. Further the generalizations could provide propositions that could form the inputs into further research. The

proposed framework that identifies the pre-requisites that the UAE government should have in place when considering the degree of market competition in its higher education funding scheme, while addressing the unique characteristics of the UAE, could also serve as a guiding framework for other countries considering greater degrees of market completion in their higher education funding schemes. The research approach utilized in this study, evaluating the implementation of voucher funding for higher education through the three categories of Proposed Voucher State Attributes, Enablers (Constraints) and Transition, could also serve as a guide to other researchers evaluating the implementation of voucher funding for higher education.

In regard to limitations of the study, the market system pre-requisites identified are based on Brown's 2013 study focusing primarily on the UK, which has a parliamentary democracy that could be said to 'fit' a market system, whereas such a democracy does not exist within the UAE. One could argue however that market systems do flourish in non-democratic countries, such as China. The rapid development of the UAE was facilitated in large part by a pragmatic approach, utilizing market-based strategies alongside state-owned entities. As such one could contend that the market system pre-requisites of adequate funding, quality assurance and effective governance would be seen as pragmatic and necessary within the UAE in terms of higher education funding schemes regardless of the level of democracy.

Other limitations of the study include the unavailability to interview the government officials of the Ministry of Presidential Affairs may have resulted in missing some of the objectives of the government and what it saw as possible implications of voucher funding schemes. While these government officials declined to be interviewed the consultants engaged to undertake this study on behalf of the Ministry were interviewed, and through this it is believed a fair interpretation of the Ministry of Presidential Affairs' objectives and insights were obtained.

In some cases the interview data was insufficient and needed to be validated. Triangulation was utilized as a way of cross-checking the results achieved from the interviews against other sources of data, primarily government policy documents,

journals on higher education and other writings as referenced in the literature review.

While the theory generated provided an operational framework for the UAE to follow to aid it in determining the appropriate market driven funding scheme for higher education, more detailed work is required to determine the intricacies of the funding models. As the DBA thesis has a limitation on words and needs to be concise and stress certain key findings, this additional research would fall outside the scope of this study.

## 7. Appendices

### 7.1. Appendix 1: Interview questions – Original

#### Main Research Question:

What are the consequences, intended and unintended, of implementing a voucher system for financing higher education within the United Arab Emirates?

#### Interview Questions:

Interview Questions				Audience				
Theme	Sub-Theme	Questions	Explanatory Notes	Gov't Officials	Univ. Admin		Students	
					Public	Private	Public	Private
1.0 Government objectives	1.1.0 Efficiency	<b>Overarching Question: Will increased competition result in institutions raising their quality standards to attract more students?</b>	Liberal market approach – to improve quality and efficiency through competition. For institutions to attract more students they will need to make provision that is of higher quality than their competitors.					
		1.1.1 How will voucher funding provide incentives to institutions to improve education quality and make better use of public funds?		X	X	X		
		1.1.2 How will institutions ensure quality standards are maintained or increased?	As institutions compete for more students how will they ensure quality standards are maintained? E.g. regular monitoring and publishing results.	X	X	X		
		1.1.3 Is simply exposing universities to the pressure of the marketplace sufficient to effect reforms or does marketplace competition need to be coupled with other mechanisms such as performance contracts and review of quality assurance and improvement processes?		X	X	X		

Interview Questions				Audience				
Theme	Sub-Theme	Questions	Explanatory Notes	Gov't Officials	Univ. Admin		Students	
					Public	Private	Public	Private
		1.1.4 While voucher funding may increase efficiency (increased competition to enroll more students) how can effectiveness be improved? (e.g. number of students that graduate vs number of students enrolled)	System more focused on institution level quality assurance and improvement processes and outcomes measures – Academic Audits	X	X	X		
	<b>1.2.0 Equity</b>	<b>Overarching Question: Does voucher funding achieve equal access to higher education?</b>	Social policy approach - to increase the equality of educational opportunity					
		1.2.1 Should all Emirati citizens, regardless of age, be eligible for vouchers? Or should vouchers be limited to young UAE Nationals leaving school?	Issue of lifelong learning versus undergraduate and perhaps graduate education	X	X	X	X	X
		1.2.2 Should consideration be given to increasing the number of scholarships for expatriates to attend federal and non-federal universities? Should there be a contractual requirement that the beneficiaries should work in the UAE for a certain length of time beyond graduation?	The development of the UAE depends not only on having a well-educated citizenry but also on the presence of well-educated expatriates, many who have made the UAE their home and whose commitment is to the UAE. Budgetary constraints are an issue.	X	X	X	X	X
		1.2.3 Should all institutions that are based in the UAE – public or private, Emirati-owned or foreign owned – be eligible to participate in a voucher scheme? Subject to certain criteria? Subject to a nationwide quality assurance and improvement regime?		X	X	X		



Interview Questions				Audience				
Theme	Sub-Theme	Questions	Explanatory Notes	Gov't Officials	Univ. Admin		Students	
					Public	Private	Public	Private
		1.2.4 Should larger (or supplementary) vouchers be provided to low-income families to facilitate equality of access?	Protecting individuals	X	X	X		
		1.2.5 Should vouchers be tied to particular regions of a country to facilitate equal access?	Protecting institutions – to ensure regional balance and accessibility it may be necessary to tie vouchers to particular regions of a country.	X	X	X		
		1.2.6 Does voucher funding affect institutional commitments to open access (e.g. the open door admissions policy) and the comprehensive mission?		X	X	X		
		1.2.7 Does voucher funding affect the comprehensive mission of a higher education institution?		X	X	X		
		1.2.8 Does voucher funding lead to an increased financial burden on students, and if so, does this affect student participation?		X	X	X	X	X
		1.2.9 Does voucher funding have an incentivizing influence on students in that failure to enroll in higher education “leaves money on the table”?		X	X	X	X	X
		1.2.10 Does voucher funding give students more freedom of choice? Does it influence a student’s decision about which institute to attend? (Question to student: If you had been given a voucher to attend					X	X

Interview Questions				Audience				
Theme	Sub-Theme	Questions	Explanatory Notes	Gov't Officials	Univ. Admin		Students	
					Public	Private	Public	Private
		any institution in the UAE would you have enrolled in a different university than the one you are currently enrolled in?)						
		1.2.11 Are students and parents able to make informed decisions?		X	X	X	X	X
		1.2.12 Does voucher funding influence student's decisions about which institution to attend?		X	X	X	X	X
		1.2.13 Does voucher funding affect the retention, graduation, and transfer of students, especially underrepresented students?		X	X	X		
		1.2.14 Does voucher funding affect the distribution of student populations (as defined in terms of family income, race, ethnicity, and gender) at higher education institutions?		X	X	X		
	<b>1.3.0 Protecting subjects</b>	1.3.1 Should specific vouchers be tied to certain courses such as classics or history to ensure their protection?	Left simply to market forces programmes of high cultural value but low enrollments could be at risk – universities are seen as a primary depository of a country's history and culture.	X	X	X		
		1.3.2 Should specific vouchers be tied to certain courses that support a nation's strategic and economic objectives e.g. physics, engineering, medicine?	Left simply to student choice enrollments in subjects such as physics or engineering could fall below levels required to support a nation's strategic and economic	X	X	X		

Interview Questions			Explanatory Notes	Audience				
Theme	Sub-Theme	Questions		Gov't Officials	Univ. Admin		Students	
					Public	Private	Public	Private
			objectives.					
		1.3.3 Would voucher values need to be differentiated depending on the cost of the programmes (e.g. more for a Bachelor programme than for a Diploma programme and more for a laboratory-based programme than for a non laboratory-based one)?		X	X	X		
		1.3.4 Should vouchers values be differentiated by institutions i.e. should all programmes offered by federal universities be funded by vouchers and only certain vouchers funded for private universities?	Colorado voucher scheme provides vouchers or a single value to all students studying any Bachelors or Diploma programme in a public institution and vouchers worth half that amount to students attending similar programmes at eligible private institutions.	X	X	X		
		1.3.5 Should vouchers only be used at the undergraduate level or should they be extended to cover postgraduate studies? If only to be used at the undergraduate level should only the minimum number of credits to complete a Bachelor degree be funded by vouchers?	A balance needs to be struck between encouraging people – young and old – to further their education and budgetary constraints. As such may need to limit the number of credits funded.	X	X	X		
		1.3.6 If vouchers are used only to fund undergraduate how should graduate and post graduate programmes be funded?		X	X	X		
		1.3.7 Should the length of study be		X	X	X		

Interview Questions				Audience				
Theme	Sub-Theme	Questions	Explanatory Notes	Gov't Officials	Univ. Admin		Students	
					Public	Private	Public	Private
		limited to standard three or four years for undergraduate degrees and two years for postgraduate degrees?						
		1.3.8 Should vouchers retain their real value during entire lifetime of the owner's lifelong learning?		X	X	X	X	X
		1.3.9 Should vouchers extend beyond regular institutions and include on the job training?		X	X	X	X	X
	1.4.0 Funding	<b>Overarching Question: How can governments control costs if vouchers are driven by student choice?</b>						
		1.4.1 How can governments limit the number of vouchers given that funding is not open ended and at the same time address widening access?	Governments cannot afford an open-ended financial commitment and therefore need to limit the number of students it could fund through vouchers.	X	X	X		
		1.4.2 Does this defeat a key aim of vouchers of widening access and increasing student choice?		X	X	X		
		<b>Overarching Question: Should voucher funding be extended to private institutions or other non-publicly funded institutions?</b>	Issue of public funds being used for private education.	X	X	X		
		1.4.3 Should voucher funding be extended beyond federal universities to include: <ul style="list-style-type: none"> <li>Non-private, non-federal universities</li> </ul>		X	X	X		

Interview Questions				Audience				
Theme	Sub-Theme	Questions	Explanatory Notes	Gov't Officials	Univ. Admin	Students		
					Public	Private	Public	Private
		<ul style="list-style-type: none"> <li>Private universities owned by UAE entities</li> <li>All private universities operating in the UAE</li> <li>Overseas universities</li> </ul>						
		1.4.4 Should the value of vouchers for private institutions be less than the value for Federal and Emirate-funded institutions given that the latter institutions cannot charge fees? If so what should the value of the vouchers for private institutions be (as a percentage of the value of vouchers for Federal institutions)?		X	X	X		
		1.4.5 What should the minimum quality standards be for private institutions?	Accreditation requirements?	X	X	X		
		<b>Overarching Question: Should top up fees be allowed to supplement vouchers?</b>						
		1.4.6 Given that federally funded institutions do not charge tuition fees for Emirati students should top up fees be assessed as a source of additional funds?	The UAE has a constitutional requirement that Emirati citizens should be provided with free education hence tuition fees are not assessed.	X	X	X		
		1.4.7 If federally funded institutions charge top-up fees should these be paid by	As each student is a resident of one and only one Emirate he/she would only	X	X	X		

Interview Questions				Audience				
Theme	Sub-Theme	Questions	Explanatory Notes	Gov't Officials	Univ. Admin		Students	
					Public	Private	Public	Private
		the Emirate (local state) for the Emirati students resident of the Emirate?	receive one supplementary voucher.					
		1.4.8 Given that the Federal Government is reliant upon its funding from contributions from the local Emirate states and given that historically not all Emirates have contributed their required share of funding, would having top-up fees, funded as supplementary vouchers by the Emirates, facilitate greater equity funding between the Federal Government and the Emirates?	Having the Emirates states fund supplementary vouchers used to top up Federally funded vouchers may address the issue of not all Emirates contributing their share of funds to the Federal Gov't for its operations. Local emirates may have more incentive to fund supplementary vouchers as they would go directly to their resident students.	X	X	X		
		1.4.9 If students were required to pay the top-up fee themselves would this result in lower income families being denied access?(greater emphasis on efficiency and less on equality)		X	X	X		
2.0 Resource requirements and administrative issues	2.1.0 Resource Requirements	<b>Overarching Question: How would a voucher system impact resource requirements and administrative costs?</b>						
		2.1.1 Should the voucher scheme be funded on a credit basis? If so, how many credits should be funded? Are there minimum or maximum amounts? Should funding be limited to Diplomas and Bachelor's degree? Graduate degree?		X	X	X		
		2.1.2 Should voucher values		X	X	X		

Interview Questions			Explanatory Notes	Audience				
Theme	Sub-Theme	Questions		Gov't Officials	Univ. Admin		Students	
					Public	Private	Public	Private
		vary based on programmes offered?						
		2.1.3. Does voucher funding undermine budget stability for a higher education institution and if so, how will this affect educational programmes and services?		X	X	X		
		2.1.4. Does voucher funding lead to greater reliance on external or nongovernmental funding?		X	X	X		
	<b>2.2.0 Physical facilities and infrastructure</b>	2.2.1 Would popular institutions need to expand and contract more buildings and appoint more staff?		X	X	X		
		2.2.2 Would unpopular institutions decline in numbers and even have to close?		X	X	X		
		2.2.3 Would there be a mismatch and waste of physical spaces – even for popular institutions?		X	X	X		
		2.2.4 Would institutions exercise extreme caution in investing in infrastructure given the uncertainty and instability of funding if based solely on student demand – thereby having an opposite effect on equal access and open participation?		X	X	X		
	<b>2.3.0 Geographical access</b>	2.3.1 How would students from rural areas be provided with equal access to educational institutions as	Student choice is limited by geographical factors. Urban areas have a greater diversity of institutions and	X	X	X	X	X

Interview Questions				Audience				
Theme	Sub-Theme	Questions	Explanatory Notes	Gov't Officials	Univ. Admin		Students	
					Public	Private	Public	Private
		those from urban areas?	have public transportation. The same diversity and accessibility is not available in rural areas within reasonable travel distances thereby not allowing the same level of access for rural students.					
		2.3.2 Would supplementary vouchers for travel and accommodation need to be provided to rural students wishing to attend institutions of their choice within urban settings?		X	X	X	X	X
	2.4.0 Central Agency	<b>Overarching Question: In practical terms how could the required information be collected and disseminated from all participating institutions about HEI programmes and courses?</b>						
		2.4.1 Could this be best done through a central agency? If so what would be the specific responsibilities of such an agency?	Typical responsibilities would be the tracking of credits by programme and credential type for each student; audit of data and oversight of quality assurance functions. Responsibilities could extend to negotiating with Federal Gov't the required funding for the voucher scheme.	X	X	X		
		2.4.2 Which parties should be represented by the central agency?	Consider Ministry of Higher Education and Scientific Research, Ministry of Presidential Affairs, Ministry of Finance and Industry,	X	X	X		



Interview Questions				Audience				
Theme	Sub-Theme	Questions	Explanatory Notes	Gov't Officials	Univ. Admin		Students	
					Public	Private	Public	Private
			individual Emirates, Minister of Economic Development. Representation from higher education institutions? Advisory role?					
		2.4.3 Would such an agency be able to provide students with quick access to relevant and accurate information about programmes, course content, costs, quality of teachers, and labour market position of graduates?		X	X	X		
		2.4.4 Would such an agency be able to maintain individual training careers along with individual funding allocated by subject and years?		X	X	X		
	<b>2.5.0 Organizational Culture</b>	2.5.1 Does voucher funding affect institutional culture and strategic planning?	Historically universities have tended to exhibit collegial /collaborative cultures – would this shift to a more entrepreneurial, market orientated culture?	X	X	X		
		2.5.2. Does voucher funding affect the distribution of full-time and part-time faculty across an institution?	Programmes may be subject to more changes (additions, deletions, modifications) under a market driven environment – part time faculty may offer more flexibility in staffing requirements.	X	X	X		
		2.5.3 Does voucher funding affect the roles and responsibilities of campus leaders?	Would campus leaders spend more time and energy on marketing initiatives – selling their institution to students?	X	X	X		

Interview Questions				Audience				
Theme	Sub-Theme	Questions	Explanatory Notes	Gov't Officials	Univ. Admin		Students	
					Public	Private	Public	Private
3.0 Alternative Funding Models		3.1.0 Given the government objectives are there funding alternatives to vouchers that promote competition and student choice?	Prof. Nicholas Barr argues that vouchers should be thought of as a continuum of competition, from 0% (law of the jungle) to 100% (pure central planning) or anywhere in between.	X	X	X		
			In England universities receive two streams of money: the fee paid by the student (in effect paid by the Gov't on their behalf and then recouped through the taxation system) and the Gov't grant paid by HEFCE (which is dependent on the number of students recruited and the value of the grant received for each student depends on the subject studied).					

## 7.2. Appendix 2: Interview questions - Final

### Main Research Question:

What are the consequences, intended and unintended, of implementing a voucher system for financing higher education within the United Arab Emirates?

### Interview Questions:

Interview Questions			
Theme	Sub-Theme	Questions	Explanatory Notes
1. Government Perspective	1.1. Efficiency	<b>Overarching Question:</b> Will increased competition result in institutions raising their quality standards to attract more students?	Liberal market approach – to improve quality and efficiency through competition. For institutions to attract more students they will need to make provision that is of higher quality than their competitors.
		1.1.1 How will voucher funding provide incentives to institutions to improve education quality and make better use of public funds?	
		1.1.2 How will institutions ensure quality standards are maintained or increased?	As institutions compete for more students how will they ensure quality standards are maintained? E.g. regular monitoring and publishing results.
		1.1.3 Is simply exposing universities to the pressure of the marketplace sufficient to effect reforms or does marketplace competition need to be coupled with other mechanisms such as performance contracts and	

Interview Questions			
Theme	Sub-Theme	Questions	Explanatory Notes
		review of quality assurance and improvement processes?	
		1.1.4 While voucher funding may increase efficiency (increased competition to enrol more students) how can effectiveness be improved? (e.g. number of students that graduate vs number of students enrolled)	System more focused on institution level quality assurance and improvement processes and outcomes measures – Academic Audits
	<b>1.2. Equity</b>	<b>Overarching Question: Does voucher funding achieve equal access to higher education?</b>	Social policy approach - to increase the equality of educational opportunity
		1.2.1 Should all Emirati citizens, regardless of age, be eligible for vouchers? Or should vouchers be limited to young UAE Nationals leaving school? Should voucher funding be extended to expatriate students?	Issue of lifelong learning versus undergraduate and perhaps graduate education.  The development of the UAE depends not only on having a well-educated citizenry but also on the presence of well-educated expatriates, many who have made the UAE their home and whose commitment is to the UAE. Budgetary constraints are an issue.
		1.2.2. Should vouchers be	Protecting institutions – to ensure

Interview Questions			
Theme	Sub-Theme	Questions	Explanatory Notes
		tied to particular regions of a country to facilitate equal access?	regional balance and accessibility it may be necessary to tie vouchers to particular regions of a country.
	<b>1.3. Protecting Subjects &amp; Government Steering</b>	<b>Overarching Question:</b> <b>How can voucher funding support a nation's strategic and economic objectives while also protecting its history?</b>	
		1.3.1 Should specific vouchers be tied to certain courses such as classics or history to ensure their protection?	Left simply to market forces programmes of high cultural value but low enrolments could be at risk – universities are seen as a primary depository of a country's history and culture.
		1.3.2 Should specific vouchers be tied to certain courses that support a nation's strategic and economic objectives e.g. physics, engineering, medicine?	Left simply to student choice enrolments in subjects such as physics or engineering could fall below levels required to support a nation's strategic and economic objectives.
		1.3.3. Should vouchers only be used at the undergraduate level or should they be extended to cover postgraduate studies? Should vouchers	A balance needs to be struck between encouraging people – young and old – to further their education and budgetary constraints. As such may need to limit the number of credits funded.

Interview Questions			
Theme	Sub-Theme	Questions	Explanatory Notes
		extend beyond regular institutions and include on the job training and life-long learning?	
	<b>1.4. Funding Requirements</b>	<b>Overarching Question: How can governments control costs if vouchers are driven by student choice?</b>	
		1.4.1 How can the government limit the number of vouchers given that funding is not open ended and at the same time address widening access?	The government cannot afford an open-ended financial commitment and therefore need to limit the number of students it could fund through vouchers.
		<b>Overarching Question: Should voucher funding be extended to private institutions or other non-publicly funded institutions?</b>	Issue of public funds being used for private education.
		1.4.2. Should voucher funding be extended beyond federal universities to include:  Non-private, non-federal universities  Private universities owned	Issue of public funds used to support private education.

Interview Questions			
Theme	Sub-Theme	Questions	Explanatory Notes
		by UAE entities  All private universities operating in the UAE  Overseas universities	
		<b>Overarching Question:</b> <b>Should top up fees be allowed to supplement vouchers?</b>	
		1.4.3. Given that federally funded institutions do not charge tuition fees for Emirati students should top up fees be assessed as a source of additional funds?	The UAE has a constitutional requirement that Emirati citizens should be provided with free education hence tuition fees are not assessed.
		1.4.4. If federally funded institutions charge top-up fees should these be paid by the Emirate (local state) for the Emirati students resident of the Emirate?	As each student is a resident of one and only one Emirate he/she would only receive one supplementary voucher.
		1.4.5. Given that the Federal Government is reliant upon its funding from contributions from the local Emirate states and given that historically not all Emirates have contributed their required	Having the Emirates states fund supplementary vouchers used to top up Federally funded vouchers may address the issue of not all Emirates contributing their share of funds to the Federal Gov't for its operations. Local emirates may have more incentive to fund supplementary vouchers as they would

Interview Questions			
Theme	Sub-Theme	Questions	Explanatory Notes
		share of funding, would having top-up fees, funded as supplementary vouchers by the Emirates, facilitate greater equity funding between the Federal Government and the Emirates?	go directly to their resident students.
	<b>1.5. Alternative Funding Models</b>	1.5.1. Are there funding alternatives to vouchers that promote competition and student choice?	Prof. Nicholas Barr argues that vouchers should be thought of as a continuum of competition, from 0% (law of the jungle) to 100% (pure central planning) or anywhere in between.
			In England universities receive two streams of money: the fee paid by the student (in effect paid by the Gov't on their behalf and then recouped through the taxation system) and the Gov't grant paid by HEFCE (which is dependent on the number of students recruited and the value of the grant received for each student depends on the subject studied).
<b>2. HEI Perspective</b>	<b>2.1. Resource Requirements</b>	<b>Overarching Question: How would a voucher system impact resource requirements and administrative costs?</b>	
		2.1.1 What additional	



Interview Questions			
Theme	Sub-Theme	Questions	Explanatory Notes
		administrative requirements and costs might HEI's incur from the implementation of a voucher funding system?	
		2.1.2 Should voucher funding be limited to Diplomas and Bachelor's degree? Should voucher funding also be considered for Graduate degrees?	
		2.1.3 How should voucher values be decided and funded?	Should values be decided based on programme costs? Should strategic programmes as identified by the gov't receive additional funds? Should funding be based on credits offered?
		2.1.4. How might voucher funding undermine budget stability for a higher education institution and how might this affect educational programmes and services?	
		2.1.5. Would voucher funding provide an incentive for the local Emirates to "top-up" the value of the vouchers for resident students attending institutions within their respective	

Interview Questions			
Theme	Sub-Theme	Questions	Explanatory Notes
		Emirates?	
	2.2. Physical facilities and infrastructure	<b>Overarching Question:</b> How can the provision of physical facilities and limitations due to geographical area be addressed in a voucher funding scheme?	
		2.2.1 Would popular institutions need to expand and contract more buildings and appoint more staff?	
		2.2.2 Would unpopular institutions decline in numbers and even have to close?	
		2.2.3 Would there be a mismatch and waste of physical spaces – even for popular institutions?	
		2.2.4 Would institutions exercise extreme caution in investing in infrastructure given the uncertainty and instability of funding if based solely on student demand – thereby having an opposite effect on equal access and open	

Interview Questions			
Theme	Sub-Theme	Questions	Explanatory Notes
		participation?	
	<b>2.3. Geographical access</b>	2.3.1 How would students from rural areas be provided with equal access to educational institutions as those from urban areas?	Student choice is limited by geographical factors. Urban areas have a greater diversity of institutions and have public transportation. The same diversity and accessibility is not available in rural areas within reasonable travel distances thereby not allowing the same level of access for rural students.
		2.3.2 Would supplementary vouchers for travel and accommodation need to be provided to rural students wishing to attend institutions of their choice within urban settings?	
	<b>2.4. Organizational Culture</b>	2.4.1 Does voucher funding affect institutional culture and strategic planning?	Historically universities have tended to exhibit collegial /collaborative cultures – would this shift to a more entrepreneurial, market orientated culture?
		2.4.2. Does voucher funding affect the distribution of full-time and part-time faculty across an institution?	Programmes may be subject to more changes (additions, deletions, modifications) under a market driven environment – part time faculty may offer more flexibility in staffing requirements.

Interview Questions			
Theme	Sub-Theme	Questions	Explanatory Notes
		2.4.3 Does voucher funding affect the roles and responsibilities of campus leaders?	Would campus leaders spend more time and energy on marketing initiatives – selling their institution to students?
<b>3.0 Student Perspective</b>		<b>Overarching Question:</b> Does voucher funding provide students with more freedom to choose their higher education institution and does it make students more aware of, and more motivated to take control of, their higher education?	
	<b>3.1 Student Choice</b>	3.1.1. Why did you choose to attend this university? What factors influenced your choice of institution? (E.g. career prospects, reputation of institution, facilities and infrastructure, faculty quality, campus location, etc.)	
		3.1.2. Are there any other (private/ public) universities in the UAE that you were considering attending? Outside of the	

Interview Questions			
Theme	Sub-Theme	Questions	Explanatory Notes
		UAE?	
		3.1.3. If you had been given a voucher to attend any institution in the UAE would you have enrolled in a different university than the one you are currently enrolled in?	
		3.1.4. Are students (and their parents) able to make informed decisions about which institution to attend?	
		3.1.5. Would students be willing to pay a “top-up” fee over the voucher value if institutions were allowed to charge additional fees?	
	<b>3.2 Student awareness and motivation</b>	3.2.1. Do you think voucher funding make students more aware of the cost of higher education?	
		3.2.2. Do you think voucher funding provides an incentive for students to use their voucher rather than not using it and “leaving money on the table”?	

Interview Questions			
Theme	Sub-Theme	Questions	Explanatory Notes
		3.2.3. Do you think voucher funding instils a greater sense of control over one's destiny resulting in greater interest, participation, enthusiasm and dedication to their studies?	
		3.2.4. Do you think voucher funding makes students more aware of the government's strategic priorities and labour market requirements?	
	<b>3.3 Student life-long learning</b>	3.3.1. Do you think vouchers should extend beyond traditional undergraduate and graduate programmes and include on the job training and life-long learning?	

### 7.3. Appendix 3: Data Collection – Interviewees

Actors	Institution	Position
<b>GOVERNMENT</b>	Ministry of Higher Education and Scientific Research, Commission for Academic Accreditation	Commissioner for Development
	Ministry of Higher Education and Scientific Research, Higher Education Coordinating Council	Former Managing Director
	Ministry of Higher Education and Scientific Research, Higher Education Coordinating Council	Associate Managing Director
	Ministry of Finance, Budget Department	Head, Budget Department
	Ministry of Finance, Budget Department	Budget Officer
	Ministry of Presidential Affairs	Consultancy Engagement
	Ministry of Presidential Affairs	Consultancy Engagement
	Abu Dhabi Education Council	Division Manager, Global Partnerships
	Abu Dhabi Education Council	Section Manager for Planning and Performance Management - Higher Education
	Dubai Knowledge and Human Development Authority	Executive Director, Higher Education
<b>UNIVERSITIES - PUBLIC</b>	Higher Colleges of Technology	Vice Provost, Planning and Administration
	United Arab Emirates University	Chief Financial Officer
	Zayed University	Chief Administrative and Finance Officer
<b>UNIVERSITIES – PRIVATE</b>	Abu Dhabi University	Executive Director, Institutional Research
	American University of Sharjah	Vice Chancellor for Finance and Administration
	British University in Dubai	Registrar
<b>STUDENTS</b>	Abu Dhabi University	Focus Group
	Al Hosn University	Focus Group
	Khalifa University	Focus Group

## 7.4. Appendix 4: UAE Federal Government Per Student Funding Scheme

### Annex A: Per Student Funding Scheme for Higher Colleges of Technology (2006-07 Academic Year Data)

Subject Group		Student FTE			Academic Salary & Benefit Scale	Salary Wt. for Subject Group up to Diploma	Salary Wt. for UG & Above	Adjusted Salary
		Total	Diploma & Below	Above Diploma				
Medical Subjects	A	0	0	0	551,250	1	1	#DIV/0!
Lab Based Science	B	4387	2077	2310	420,000	0.7	1	360,346
Other Subjects	C	7095	4059	3036	367,500	0.8	1	325,451
Preparatory Subjects	D	5182	5182	0	327,600	1	0	327,600
Total		16664	11318	5346				
		Faculty Allocation Ratios						
			Diploma & Below	Above Diploma				
Medical Subjects	A		6.25	5				
Lab Based Science	B		15	12				
Other Subjects	C		17.5	14				
Preparatory Subjects	D		16					
		Faculty Allocated			Assumed Compensation for Academic Staff	All Other Expenditures		Assumed Total General Expenditure
		Total	Diploma & Below	Above Diploma		Ratio of Exp. To Faculty Comp.	Allocation	
Medical Subjects	A	0	0	0	0	2.426000000	0	0
Lab Based Science	B	331	138	193	119,262,522	1.523039996	181,641,591	300,904,113
Other Subjects	C	449	232	217	146,062,482	0.729600000	106,567,187	252,629,669
Preparatory Subjects	D	324	324		106,101,450	0.455999998	48,382,261	154,483,711
Total		1,104	694	409	371,426,454		336,591,039	708,017,492
ADJUSTMENTS / STUDENT								
Size / Scale								127,443,347
GRAND TOTAL								835,460,839



## Annex B: Per Student Funding Scheme Summary – Federal Universities (2006-07 Academic Year Data)

ENROLLMENT		UAE University				Zayed University				HCT			
Subject Group			Diploma & Below	Above Diploma	Total		Diploma & Below	Above Diploma	Total		Diploma & Below	Above Diploma	Total
Medical Subjects	A			244	244								
Lab Based Science	B			3,074	3,074			478	478		2,077	2,310	4,387
Other Subjects	C		183	6,080	6,263			1,625	1,625		4,059	3,036	7,095
Preparatory	D		<u>4,718</u>		<u>4,718</u>		<u>1,129</u>		<u>1,129</u>		<u>5,182</u>		<u>5,182</u>
<b>Total</b>			<b>4,901</b>	<b>9,398</b>	<b>14,299</b>		<b>1,129</b>	<b>2,103</b>	<b>3,232</b>		<b>11,318</b>	<b>5,346</b>	<b>16,664</b>
<b>FUNDING/STUDENT</b>	<b>1</b>	Assumed Exp.				Assumed Exp.				Assumed Exp.			
Medical Subjects	A	87,744,655			359,609								
Lab Based Science	B	271,454,130			88,306	42,210,499			88,306	300,904,444			68,590
Other Subjects	C	281,039,455			44,873	73,778,366			45,402	252,630,117			35,607
Preparatory	D	<u>140,651,424</u>			<u>29,812</u>	<u>33,657,367</u>			<u>29,812</u>	<u>154,484,035</u>			<u>29,812</u>
<b>Total</b>		<b>780,889,664</b>			<b>54,611</b>	<b>149,646,232</b>			<b>46,301</b>	<b>708,018,596</b>			<b>42,488</b>
<b>ADJUSTMENTS/STUDENT</b>													
Medic's Salaries		2,241,750			157								
Emiratization	2	36,359,395			2,543								
Size/Scale	3	<u>15,617,793</u>			<u>1,092</u>	<u>47,886,794</u>			<u>14,816</u>	<u>127,443,347</u>			<u>7,648</u>
<b>Total</b>		<b>54,218,938</b>			<b>3,792</b>	<b>47,886,794</b>			<b>14,816</b>	<b>127,443,347</b>			<b>7,648</b>
<b>GRAND TOTAL</b>		<b>835,108,602</b>	<b>4</b>		<b>58,403</b>	<b>197,533,026</b>			<b>61,118</b>	<b>835,461,943</b>			<b>50,136</b>

**Footnotes:** 1 Funding model assumes it is cheaper to engage faculty to teach courses in humanities than in the sciences and that teaching diploma level courses is cheaper than teaching Degree level courses. As such the salary and allowance levels for each subject group and for the level of qualifications aimed for are as follows:

		Qualification		
		Above Diploma	Diploma	
Medical Subjects	A	551,250		
Lab Based Science	B	420,000	360,346	Diploma weighted at 0.7
Other Subjects	C	367,500	325,451	Diploma weighted at 0.8
Preparatory	D	327,600	327,600	

2 UAEU employs substantially more UAE Nationals than the other institution hence additional funding is provided as compensation for Nationals is higher than for expatriates

3 The funding model includes a variable factor for size and scale to reflect the extra funds necessary to cater for small classes as a result of geographically dispersed campuses, for single gender education and to allow for Zayed University's small size and multiple programs. The following factors have been applied: UAEU 1.02; Zayed University 1.32; HCT 1.18

4 In addition to the funding identified for UAE University an additional AED 107,242,500 (AED 7500 per student) is provided for student transportation and accommodation.

## 8. Abbreviations

ADU	Abu Dhabi University
ADEC	Abu Dhabi Education Council
AHU	Al Hosn University
AUS	American University of Sharjah
BUID	British University in Dubai
CAA	Commission for Academic Accreditation
CEPA	Common Educational Proficiency Assessment
CHEDS	Center for Higher Education Data and Statistics
EMIRATI	UAE Citizen
HCT	Higher Colleges of Technology
KHDA	Knowledge and Human Development Authority (Dubai)
KU	Khalifa Univeristy
MOE	Ministry of Education
MOFI	Ministry of Finance and Industry
MOHESR	Ministry of Higher Education and Scientific Research
MOPA	Ministry of Presidential Affairs
NAPO	National Admissions and Placement Office
SAI	State Audit Institute
UAE	United Arab Emirates
UAEU	United Arab Emirates University
ZU	Zayed University

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